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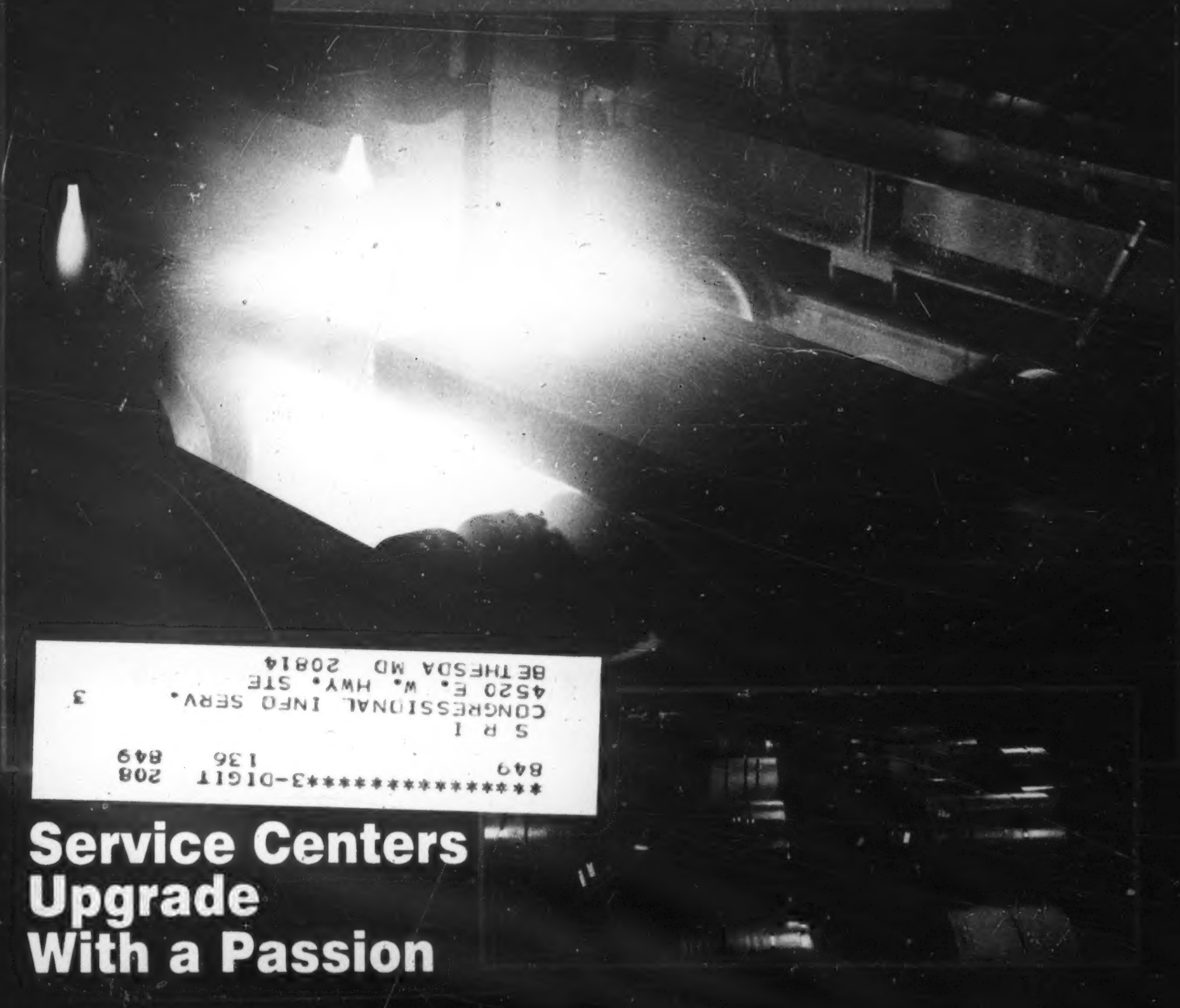
IRON AGE METALS PRODUCER

MAY 1987

The Return to Stand Alone Steelmaking



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Service Centers Upgrade With a Passion

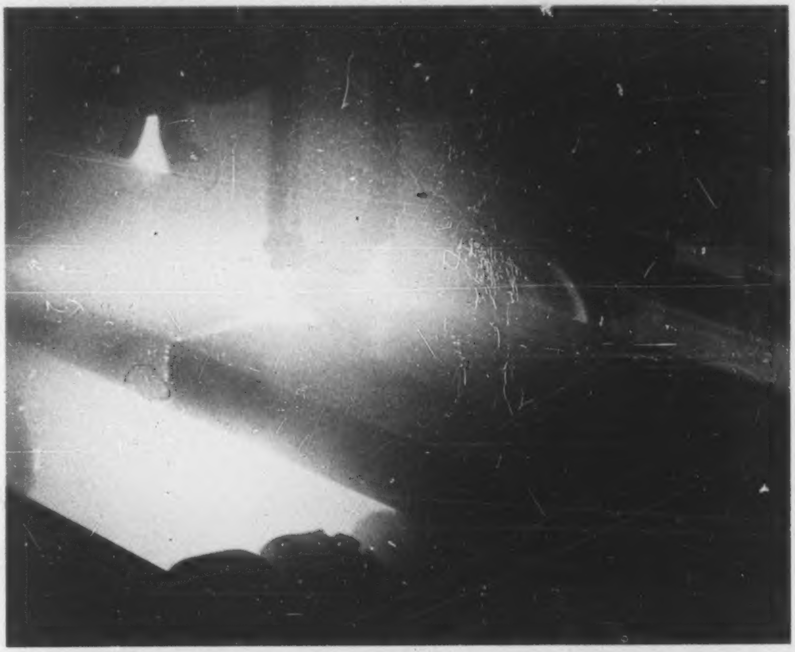
IRON AGE
METALS PRODUCER

CONTENTS

MAY 1987, Vol. 3, No. 5

Stand Alone Steelmaking: Steel operations will have to swim if they are to stay afloat because they are being separated from diverse corporate structures.

Special Feature-P.18



The heat is on steel to stand on its own and produce a profit.

EDITORIAL

P.5—One Out of Every Three Ain't Good.

NEWSWATCH

P.11—Steel Imports
Specialty steelmakers and the Steelworkers ask a U.S. trade panel to extend for three years the import restraints on specialty steel.

STEEL

P.18—Stand Alone Steelmaking
A wave of spin-offs and sell-offs has spawned a host of new steel companies, some of whom are turning a tidy profit.

SERVICE CENTERS

P.31—Service Centers
Metal distributors are doing more pre-production processing, adding new equipment and using more computers to fine tune inventories.

GOVERNMENT

P.39—Pension Corp.
Steel industry bankruptcies are sending the Federal Pension Benefit Guaranty Corp. deeper and deeper into the red.

COILBOX

P.43—Acme Steel
Its new coilbox is helping this steelmaker to provide narrow strip that can meet high quality demands.

SLAG CASTING

P.46—Electroslag Casting
The latest competition for the forging is the quick, inexpensive electroslag casting. Its mechanical properties and chemistries are uniform.

ADVANCED MATERIALS

P.48—Metal Tests
The nickel- and copper-based alloys performed well in new tests to gage the ignition and burning traits of existing metals in oxygen systems.

STEEL BY GEORGE

P.52—Steel's Turning Point
There is no longer a huge cushion of surplus capacity standing between steel users and a shortage.

MATERIALS REPORT

P.53—Steel Summary
Order rates indicate a boom, but steelmakers are wary.

DEPARTMENTS

P.6—Editorial Staff
P.49—Product Review
P.51—Free Literature
P.54—P&P Data
P.55—Ferrous Scrap
P.56—Ad Index
P.56—Business Staff
P.57—Reader Service Card

NEXT ISSUE:

Hot Surface Inspection

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STEEL BANKRUPTCIES EMPTY THE PENSION AGENCY'S TILL

The Pension Benefit Guaranty Corp. says it will be hard pressed to pick up the tab for industry pensions. Though Congress tripled its income last year, the Federal agency is nearly broke.

The sinking of LTV Steel Corp. into a sea of red ink will eventually cost U.S. businesses billions to shore up an obscure government agency that underwrites pension funds.

When the nation's second largest steelmaker went broke several months ago, it also sank three huge pension funds. And that action in turn dumped $2.2 billion in guaranteed pension benefits that must be paid into the lap of the Pension Benefit Guaranty Corp. (PBGC), an agency created under a 1974 Federal law.

That law, commonly known as ERISA, required the PBGC to create a special fund to pay workers whose companies had dropped their pension plans, but who were still owed pensions.

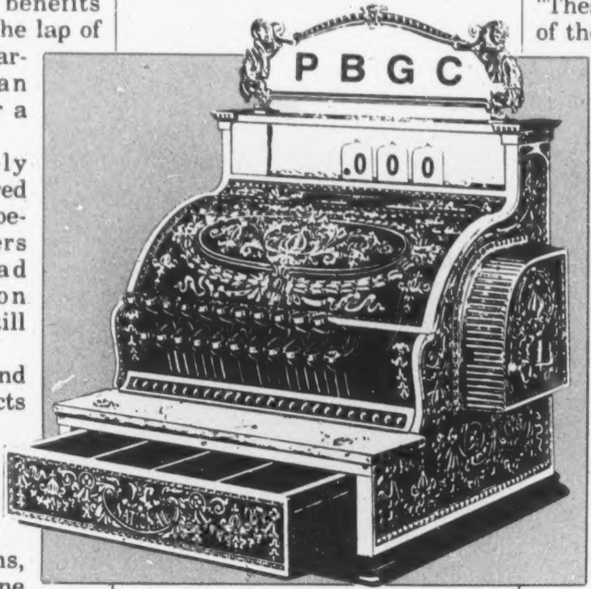
To keep that special fund solvent, the PBGC collects premiums from private companies and labor unions to meet the obligations of companies that have abandoned their pension obligations, even if they haven't gone broke. The agency estimates that close to 40 million private industry workers are protected in this way under 112,000 pension plans.

Now the agency is nearly broke, though only last year it persuaded Congress to triple its main source of income, the annual premiums it charges more than 100,000 private companies. The premiums rose from $2.60 per worker per year to $8.50.

But even before LTV dropped its pension obligations, that increase wasn't enough to shore up the agency's sagging finances.

The situation was outlined late last year by Kathleen Utgoff, the executive director of the PBGC. "If things had gone as projected two years ago (in 1984), we might have eked through," she explained. "But our problems are much worse."

She was referring to the fact that last year both Wheeling-Pittsburgh and Allis-Chalmers Corp. had gone into bankruptcy court and the LTV bankruptcy was imminent. As part of its arrangement with sponsors of troubled pension plans, the PBGC can lay claim to the assets of a company's plan to avoid having to pay benefits from the funds other employers are required to contribute.



But in reality, by the time a company goes into bankruptcy, it has used up the assets of the pension plan in a frantic effort to cut costs.

That happened in the case of LTV, Ms. Utgoff said when her agency moved in court to dissolve the three LTV pension plans. She explained to reporters, "LTV has not complied with minimum funding standards for the 1984 and 1985 plan years. Officials of the company informed the PBGC... of the company's inability to make further contributions to the pension plans."

Then she got to the main issue, "These plans have only one-third of the funding needed to pay the benefits promised to participants and retirees."

She pointed out that other steel companies have helped deplete the agency's treasury. In 1977, the pension plan of the Alan Wood Steel Co. was terminated with $41 million in underfunding.

That was followed by Continental Steel, with $61 million in underfunding; McLouth Steel with $51 million; Mesta Machine at $36 million; Phoenix Steel at $43 million; Washburn Wire with $21 million; Wheeling-Pittsburgh with a whopping $498 million; and Wisconsin Steel at $62 million in underfunded pensions.

Those steel industry plan terminations, which occurred before LTV failed, caused half of the current deficit faced by the PBGC. And, Ms. Utgoff said, LTV's addition of almost $2.3 billion to the agency's obligations caused the steel industry's terminated pension plans to make up over two-thirds of the PBGC's deficit.

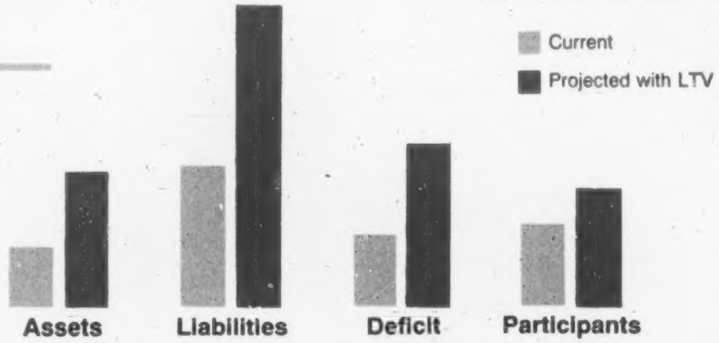
Late last year, the agency issued some gloomy predictions for its financial future in 1987, with the premium plus income from investments providing a total in-

LTV Corporation Pension Facts

Plan Name	Participants	Retirees	Assets in Trust (millions)	Estimated Present Value of Guaranteed Benefits (millions)	Estimated Underfunding (millions)
Republic Steel Retirement Plan *	7,700	3,300	$.008	$230	$230
Jones and Laughlin Retirement Plan ** (Salaried)	15,4000	7,7000	310	630	320
Pension Plan of Republic Steel ** (Hourly)	41,600	22,400	650	1,190	540
Jones and Laughlin Hourly Pension Plan **	43,900	26,000	360	1,590	1,230
Estimated Totals	**108,600**	**59,400**	**$1,320**	**$3,640**	**$ 2,320**

* PBGC appointed trustee 10/2/86.
** PBGC filed for termination date of 1/13/87

LTV Impact on PBGC



come of about $425 million. However, the agency's payments to retired workers were then assumed to be about $690 million. As of last September, Ms. Utgoff said, the pension corporation had assumed long-term liabilities for pension benefit payments of $4.6 billion—but its assets totaled only $2.2 billion. And, she added, the gap between the agency's assets and liabilities was likely to reach $4 billion by this September.

"That means," she explained, "we are $2.4 billion short of what is needed to meet the promises we have already made."

But those were only preliminary estimates, and after the LTV collapse became official, the agency went back to its books and issued an annual report last month for the year ending last Sept. 30.

For that year, its deficit had reached $3.8 billion, and its liabilities had more than doubled over the previous year to $5.6 billion while assets were at $1.8 billion.

And in that year alone, the number of persons that it is responsible for paying benefits doubled, a figure swelled by the 108,600 persons enrolled in the three collapsed LTV pension plans.

The agency also explained that company bankruptcies were depleting its funds faster than anyone could have imagined several years ago. In fiscal 1986 alone, the PBGC became the trustee of 120 terminated single employer pension programs, and a total of 1,345 single-employer plans were in trusteeship or pending trusteeship.

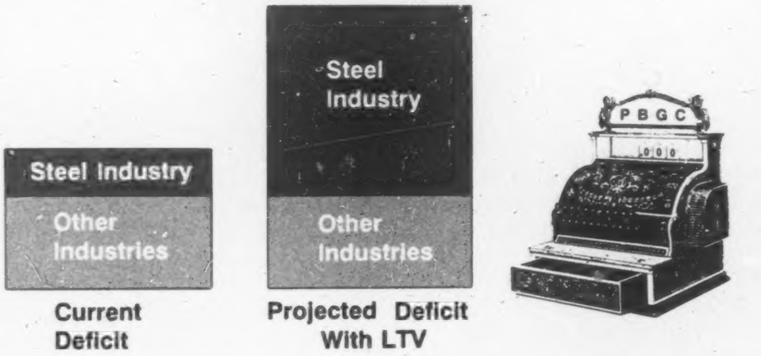
More importantly, the agency also made some projections about what will happen in the next few years if it doesn't get more money. Based on projections of future claims, its fund from premiums and investments would be available to pay benefits only through fiscal 1988 at the earliest or fiscal 1989 at the latest.

The agency also said that when that fund is gone, the PBGC would have to start using more of the assets it has in a special trust

Major Steel Industry Pension Plan Terminations

Company	Date of Termination	Plan Underfunding (in millions of dollars)	Participants Total/Retired
Alan Wood	1977	41	3,400/1,100
Continental	1986	61	3,200/1,600
LTV Steel	1986-1987	2,320	108,600/50,400
McLouth	1982	51	5,500/1,400
Mesta Machine	1983	36	1,800,200
Phoenix Steel	1983	43	3,200/1,100
Washburn Wire	1976-1979	21	1,500/700
Wheeling-Pittsburgh	1985	498	21,500/10,000
Wisconsin	1980	62	4,000/1,400

Impact of Steel Industry Terminations



fund to meet benefit obligations, with that money running out in fiscal 2003.

Ms. Utgoff told reporters, "The PBGC is running out of money. Its financial crisis poses a serious threat to the future of the pension insurance program. Retirees who depend on us are not in immediate danger, but action is needed now to secure these promises for the future."

Insurance Claims

She also noted that claims against the agency's insurance program over the past few years were much larger than those of the late 1970s. Ms. Utgoff pointed out that over the agency's first four years of operations, PBGC funds were needed to pay, on average, about 45 pct of the benefits in PBGC-trusteed pension plans. But over the last four years, she said, PBGC funds have been needed to pay, on average, about 61 pct of the benefits in significantly larger plans requiring PBGC trusteeship.

In that area, Ms. Utgoff pointed out that net dollar claims on the agency's insurance program during the past five years were also much larger than those made in earlier years. Including pending terminations, she said, average net claims for the past five years were $711 million, and for the first 12 years of the corporation's history those claims averaged $325 million.

She concluded, "The time to act is now, before we run out of money, because additional terminations of large poorly funded claims could deplete the insurance fund even sooner."

Earlier, she had said, "What we're doing is not good for the economy. We're basically propping up losers. Some companies could not survive without us. If we weren't making these automatic handouts to industry, then company pension plans wouldn't get so underfunded."

Her boss, Labor Secretary William Brock, also talked tough about industry, charging, "What's happening is that firms are declaring bankruptcy, unloading their pension liabilities on the Federal government, and then, are operating under Chapter 11 reorganization."

With that crisis as a background, the PBGC will go to Congress later this year with detailed plans for rescuing its fund. Early drafts of its proposals have been floating around Washington for several weeks.

Those documents lay out the basic strategy for convincing Congress to rescue the PBGC both in terms of short term capital and long term solvency.

The latest proposals include:

–Having employers whose vested pension benefit obligations are overfunded by at least 125 pct pay the current premium of $8.50 per plan participant. However, this premium would be indexed to the average annual increase in national wages.

–Pension programs that are less than 125 pct overfunded would pay, in addition to the $8.50 annual premium, a "funding charge" of $6 per $1,000 of underfunding per plan participant. A plan would be considered underfunded if its assets did not exceed its vested benefit obligations by at least 24 pct.

—The PBGC would have the authority to move the funding charge up or down by up to 50 pct every three years if claims experience proved better or worse than expected. But since claims seem to be zooming upward, that adjustment would probably follow that pattern.

—The annual premium would be capped at $100, but that limit would be indexed to 150 pct of the annual increase in national wages. As an example, if wages rose 5 pct, then the premium cap could go up by 7.5 pct.

—Employers that get pension funding waivers from the Internal Revenue Service would be hit with an additional premium surcharge. Under this proposal, the surcharge for a company that gets a waiver exempting it from making minimum pension contributions could be up to 50 pct of the funding charge. For example, a company getting a waiver and whose funding charge was $36 would also pay a funding charge of $18. Thus, the total premium, including the basic $8.50 premium, could be $62.50 for each worker in the pension plan. This funding surcharge would apply only to waivers approved after the proposal was enacted into law.

—And, importantly, the employer, rather than the pension plan itself, would be liable for paying the PBGC premium. In addition, all members of what's termed a "controlled group," rather than just the individual employer sponsoring the plan, would be liable for premium payments. As an example of how this would work, if one member of a corporate family, or "controlled group," terminated a pension plan and failed to make the required PBGC premium payments, the corporation's other units would be responsible for paying the premiums.

Considering the PBGC's deficit has soared from $462 million to over $4 billion in just one year, some experts think this type of rescue proposal might be more fair to employers than simply asking Congress to increase the yearly premium under the current flat rate system. They also project that a flat rate of $40 to $50 per year for each worker in a plan might be needed to pay off the deficit, and of course the premium could go much higher if the PBGC gets slapped with more multibillion dollar claims.

'The financial crisis poses a serious threat to the future of the pension insurance program,' says Kathleen Utgoff, PBGC executive director.

And employers with well-funded plans resent subsidizing badly funded programs through increased premiums, and claim it's time to stop raising the PBGC premium for all plans.

Stuart Brahs, executive director of the Association of Private Pension and Welfare Plans in Washington, said, "Increasing the premium is not the answer."

There are also fears that if the premium continues to soar, employers with well-funded pension systems will simply walk away from their plans because they would feel unfairly taxed to pay for companies not willing to shell out enough to keep their pension programs healthy. As Ms. Utgoff put it, "We do not want to tax the defined benefit plan system out of existence."

She points out that a variable-rate premium would reward those companies that responsibly fund their plans through a lower PBGC premium. At the same time, it would also encourage other firms to beef up funding if their plans are inadequate.

Frank McArdle, the educational director of the Employee Benefit Research Association, explained, "Some employers will see a variable-rate premium as a more equitable way to fund the PBGC's liabilities, while creating incentives so that plans may become better funded."

Since the Reagan Administration first outlined its variable-rate proposal several months ago, several business groups have endorsed the concept.

In February, the Risk and Insurance Management Society, a trade group that serves company managers of pension plans, endorsed the variable rate concept as a way to make the companies with the highest risks on pension funds pay the highest premiums.

Last month, the National Association of Manufacturers lent its support to the variable-rate premium as a fairer way of splitting up the costs to support the PBGC.

However, Ms. Utgoff's proposals will also face some opposition from employers who are certain to question why a pension plan must be 125 pct overfunded to qualify for the low $8.50 premium.

And in political Washington any proposal—fair or not—calling for raising taxes on anyone is bound to send the politicians running for cover. Congress thought it was through with the PBGC for at least a while after it raised pension taxes last year.

As one corporate lobbyist put it, "I'm sure Ms. Utgoff's plan is fair... but no politician in his right mind wants to do anything about taxes this year or next."

Whether it takes one year or three, most observers agree on another matter: Eventually Congress will have to raise the premiums to keep the PBGC from going broke—the only question is how.

By Whitt Flora

PRICE & PRODUCTION DATA

(Effective April 6, 1987)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	196	188	157	184
Pittsburgh	194	200	199	228
Youngstown	116	119	109	107
Lake Erie	121	135	120	142
Detroit	154	161	156	148
Chicago	453	464	314	518
Midwest	194	203	168	167
Southern	170	173	158	199
Western	52	53	45	87
U.S. Production	1,650	1,696	1,426	1,780

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium

Pellets (per iron unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.45-86.9***
Mesabi, regular-unscreened	gross-ton 32.53
Mesabi, non-bessemer	gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper Lake ports. ***72.45¢—Cleveland-Cliffs as of 12/30/86. 72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82, Hanna Mining 2/26/82

STEEL PRODUCTION, COMPOSITE PRICES

(Effective April 6, 1987)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,650	1,696	20,460	23,799
Capability Utilization Rate	76.7	78.7	70.0	71.1

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 1/4/87)	25.236	25.236	25.236	24.607
Pig Iron** (Net ton=2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 73.17	$ 73.50	$ 74.83	$ 73.83
No. 2 bundles	$ 49.83	$ 49.83	$ 50.50	$ 53.50

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh	$ 76.50	$ 77.50	$ 79.50	$ 73.50
No. 1 steel, Philadelphia	70.50	70.50	70.50	73.50
No. 1 steel, Chicago	72.50	72.50	74.50	74.50
No. 1 bundles, Detroit	66.50	72.50	76.50	62.50
Low Phos., Youngstown	75.50	80.50	80.50	73.50
No. 1 mach'y cast., Pgh	74.50	74.50	74.50	73.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	93.50	95.50	95.50	109.50

*Finished Steel Composite. Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.

**Pig Iron Composite. Based on average prices for basic and foundry pig iron at representative producing points within the U.S.

***Steel Scrap Composite. Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective April 6, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	63.00	61.10	4/6/87
Copper (C)	67.00	68.50	4/1/87
Lead	26.00	27.00	2/2/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	172.00	171.00	4/6/87
Zinc	47.00	44.50	10/6/86

ALUMINUM: Avg. for last week & previous week. COPPER (C)=cathode. LEAD: common grade. MAGNESIUM: 99.8% pig delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$152.00
Beryllium 97% powder 200	$196.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz	$418.70
Indium, per troy oz.	$3.60
Iridium, per troy oz.	$405.00
Magnesium sticks, 10,000 lbs	$2.12
Mercury, per 76-lb., f.o.b. N.Y.	$215.00-245.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.45
Palladium, per troy oz	$127.00
Platinum, per troy oz.	$540.00
Rhodium, per troy oz	$1,174.00
Silver ingots, per troy oz	$6.32
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.20-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

March 30—294.00
March 31—295.00
April 1—296.00
April 2—295.00
April 3—296.00

Scrap Prices
Brass Mill Scrap

(Cents per lb., over 20,000 lbs. add 1¢ per lb.)

	Solids	Turnings
Copper	55½	50½
Yellow brass	49	48
Red brass	50	46
Comm. bronze	51½	46½
Mang. bronze	38½	37½
Free cutting rod ends	48	47

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	55
No. 2 copper wire	46
Light copper	40

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	48
No. 2 copper wire	40
Light copper	33
No. 1 composition	41
No. 1 comp. turnings	41
Hvy. yellow brass solids	29
Hvy. yellow brass turnings	23
Radiators	27

Aluminum

New mixed clips	39	— 40
Old sheet	33	— 34
Old cast	33	— 34
Clean dry borings	34	— 35

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	34	— 35
Mixed L.C. clips	33	— 34
Old sheets and cast	27	— 28
Borings and turnings	23	— 24
Duraluminum clippings	27	— 28

Copper and Brass

No. 1 copper wire	44	— 47
No. 2 copper wire	35	— 36
Light copper	32	— 33
Radiators	22	— 23
No. 1 composition	36	— 37
No. 1 composition turnings	34	— 35
Cocks and faucets	30	— 31
Clean heavy yellow brass	26	— 28
Brass pipe	26	— 27
New soft brass clippings	39	— 40

Lead

Heavy soft lead	9	— 10
Whole batteries	1	— 2
Type metal	18	— 19
Electrotype	13	— 14

Nickel

Nickel solids	100	—110
Nickel rod ends	100	—110
Nickel sheets, clips	100	—110
Nickel turnings	25	— 35

Zinc

New zinc clippings	14	— 15
Old diecast zinc	10	— 11

MATERIALS PRICES

EFFECTIVE APRIL 6, 1987

(Effective April 6, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contracts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 76.00 to	$ 77.00
No. 2 hvy. melting	66.00 to	67.00
No. 1 dealer bundles	93.00 to	94.00
No. 1 factory bundles (auto)	97.00 to	98.00
No. 2 bundles	45.00 to	46.00
No. 1 busheling	91.00 to	92.00
Machine shop turnings	8.00 to	9.00
Shoveling turnings	46.00 to	47.00
Cast iron borings	43.00 to	44.00
Low phos. punchings plate	99.00 to	100.00
Heavy turnings	66.00 to	67.00
No. 1 RR hvy. melting	86.00 to	87.00
Rails, 2 ft. and under	98.00 to	99.00
Scrap rails, random lgth	86.00 to	87.00
RR specialties	97.00 to	98.00
No. 1 machinery cast	74.00 to	75.00
Cupola cast	67.00 to	68.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	500.00 to	510.00
18-8 turnings	400.00 to	410.00

Chicago

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	68.00 to	69.00
No. 1 dealer bundles	87.00 to	88.00
No. 1 factory bundles (auto)	87.00 to	88.00
No. 2 dealer bundles	60.00 to	61.00
No. 1 busheling	82.00 to	83.00
Shredder scrap	79.00 to	80.00
Machine shop turnings	22.00 to	23.00
Mixed borings and turnings	15.00 to	16.00
Shoveling turnings	25.00 to	26.00
Cast iron borings	40.00 to	41.00
Low phos. forge crop	93.00 to	94.00
Low phos. punchings plate 1/4 in. and heavier	108.00 to	109.00
Low phos. 2 ft. and under	101.00 to	102.00
No. 1 RR hvy. melting	76.00 to	77.00
Scrap rails random lgth	81.00 to	82.00
Reroller rails	99.00 to	100.00
Rails, 2 ft. and under	92.00 to	93.00
RR couplers and knuckles	73.00 to	74.00
RR car axles	98.00 to	99.00
No. 1 machinery cast	93.00 to	94.00
Cupola cast	83.00 to	84.00
Stove plate	96.00 to	97.00
Steel car wheels	84.00 to	85.00
Stainless		
18-8 bundles and solids	460.00 to	470.00
18-8 turnings	350.00 to	360.00
430 bundles and solids	125.00 to	135.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 69.00 to	$ 72.00
No. 2 hvy. melting	61.00 to	64.00
No. 1 dealer bundles	86.00 to	89.00
No. 2 dealer bundles	42.00 to	45.00
No. 1 busheling	80.00 to	83.00
Shredder scrap	84.00 to	87.00
Machine shop turnings	24.00 to	27.00
Mixed borings and turnings	24.00 to	27.00
Shoveling turnings	39.00 to	42.00
Low phos. 5 ft. and under	78.00 to	81.00
Low phos. 2 ft. punchings	96.00 to	99.00
Electric furnace bundles	88.00 to	91.00
RR specialties	80.00 to	83.00
Rails, 2 ft. and under	96.00 to	99.00
Cupola cast	79.00 to	82.00
Heavy breakable cast	52.00 to	55.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 49.00 to	$ 50.00
No. 2 hvy. melting	47.00 to	48.00
No. 1 dealer bundles	66.00 to	67.00
No. 2 bundles	33.00 to	34.00
No. 1 busheling	64.00 to	65.00
Drop forge flashings	39.00 to	40.00
Machine shop turnings	17.00 to	18.00
Mixed borings and turnings	6.00 to	7.00
Shoveling turnings	17.00 to	18.00
Cast iron borings	20.00 to	21.00
Heavy breakable cast	32.00 to	33.00
Mixed cupola cast	47.00 to	48.00
Automobile cast	71.00 to	72.00
Stainless		
18-8 bundles and solids	450.00 to	460.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 60.00 to	$ 61.00
No. 2 hvy. melting	59.00 to	60.00
No. 1 dealer bundles	80.00 to	81.00
No. 2 dealer bundles	34.00 to	35.00
Machine shop turnings	15.00 to	16.00
Shoveling turnings	15.00 to	16.00
Low phos. plate	75.00 to	76.00
Electric furnace bundles	65.00 to	66.00
Galvanized bundles	62.00 to	63.00

Cleveland

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 56.00 to	$ 57.00
No. 2 hvy. melting	53.00 to	54.00
No. 1 dealer bundles	79.00 to	80.00
No. 1 factory bundles	79.00 to	80.00
No. 2 bundles	33.00 to	34.00
No. 1 busheling	69.00 to	70.00
Machine shop turnings	14.00 to	15.00
Shoveling turnings	18.00 to	19.00
Cast iron borings	19.00 to	20.00
Cut structural & plates, 5 ft. and under	64.00 to	65.00
Cut structural & plates, 2 ft. and under	89.00 to	90.00
Low phos. punchings plate	89.00 to	90.00
Foundry steel, 2 ft. & under	56.00 to	57.00
No. 1 RR hvy. melting	62.00 to	63.00
Rails, 2 ft. and under	94.00 to	95.00
Rails, 18 in. and under	96.00 to	97.00
No. 1 machinery cast	83.00 to	84.00
Mixed cast	50.00 to	51.00
Stainless		
18-8 bundles	445.00 to	455.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 54.00 to	$ 55.00
No. 2 hvy. melting	44.00 to	45.00
No. 1 busheling	75.00 to	76.00
No. 1 dealer bundles	75.00 to	76.00
No. 2 bundles	29.00 to	30.00
Machine shop turnings	13.00 to	14.00
Mixed borings and turnings	13.00 to	14.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	27.00 to	28.00
Low phos. plate	77.00 to	78.00
Structural and plate, 2 ft. and under	79.00 to	80.00
Rails, 2 ft. and under	81.00 to	82.00
Scrap rails, random lgth	63.00 to	64.00
No. 1 machinery cast	76.00 to	77.00
No. 1 cupola cast	71.00 to	72.00

St. Louis

No. 1 hvy. melting	$ 65.00 to	$ 66.00
No. 2 hvy. melting	55.00 to	56.00
No. 1 busheling	80.00 to	81.00
No. 1 dealer bundles	82.00 to	83.00
No. 2 bundles	53.00 to	54.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	26.00 to	27.00
No. 1 RR hvy. melting	75.00 to	76.00
Rails, random length	76.00 to	77.00
Rails, 5 ft. and under	86.00 to	87.00
RR specialties	75.00 to	76.00
Cupola cast	66.00 to	67.00
Heavy breakable cast	40.00 to	41.00
Stove plate	85.00 to	86.00
Steel car wheels	85.00 to	86.00
Rerolling rails	99.00 to	100.00
Unstripped motor blocks	49.00 to	50.00

Birmingham

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	67.00 to	68.00
No. 1 dealer bundles	72.00 to	73.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	72.00 to	73.00
Shredder scrap	88.00 to	89.00
Machine shop turnings	28.00 to	29.00
Shoveling turnings	37.00 to	38.00
Cast iron borings	34.00 to	35.00
Electric furnace bundles	68.00 to	69.00
Elec. furnace, 3 ft. & under	74.00 to	75.00
Structural and plate, 2 ft.	91.00 to	92.00
Structural and plate, 4 ft.	86.00 to	87.00
No. 1 RR hvy. melting	86.00 to	87.00
Scrap rails, random lgth	77.00 to	78.00
Rails, 2 ft. and under	94.00 to	95.00
Angles and splice bars	86.00 to	87.00
No. 1 cupola cast	82.00 to	83.00
Unstripped motor blocks	74.00 to	75.00

Cincinnati

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 55.00 to	$ 56.00
No. 2 hvy. melting	49.00 to	50.00
No. 1 dealer bundles	75.00 to	76.00
No. 2 bundles	29.00 to	30.00
Machine shop turnings	10.00 to	11.00
Shoveling turnings	13.00 to	14.00
Cast iron borings	22.00 to	23.00
Low phos. 18 in. and under	79.00 to	80.00
Rails, random length	63.00 to	64.00
Rails, 2 ft. and under	83.00 to	84.00
No. 1 cupola cast	66.00 to	67.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	71.00 to	72.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	31.00 to	32.00
No. 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	370.00 to	390.00
18-8 turnings	270.00 to	310.00
430 prepared solids	90.00 to	100.00
430 solids	75.00 to	85.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 49.00 to	$ 51.00
No. 2 hvy. melting	39.00 to	41.00
No. 1 dealer bundles	53.00 to	55.00
No. 2 bundles	32.00 to	34.00
No. 1 busheling	56.00 to	58.00
Shredder scrap	59.00 to	61.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	72.00 to	77.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 40.00 to	$ 42.00
No. 2 hvy. melting	34.00 to	36.00
No. 1 dealer bundles	31.00 to	33.00
No. 2 dealer bundles	20.00 to	21.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	80.00 to	82.00

Los Angeles

No. 1 hvy. melting	$ 34.00 to	$ 36.00
No. 2 hvy. melting	28.00 to	30.00
No. 1 dealer bundles	26.00 to	28.00
No. 2 dealer bundles	16.00 to	18.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
Elec. furnace, 1 ft. and under (foundry)	67.00 to	69.00
No. 1 cupola cast	72.00 to	74.00

Seattle

No. 1 hvy. melting	$ 60.00 to	$ 62.00
No. 2 hvy. melting	51.00 to	53.00
No. 2 bundles	35.00 to	37.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 76.00
No. 2 hvy. melting, cut 2 ft. and under	66.00
No. 1 dealer bundles	86.00
No. 2 bundles	58.00
Mixed steel scrap	51.00
Bush. new fact. prep'd	86.00
Bush. new fact. unprep'd	69.00
Machine shop turnings	30.00
Short steel turnings	30.00
Mixed borings and turning	19.00
Cast scrap	90.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 62.00 to	$ 63.00
No. 2 hvy. melting	52.00 to	53.00
No. 2 bundles	33.00 to	34.00
Machine shop turnings	13.00 to	14.00
Crushed turnings	23.00 to	24.00
Shredder scrap	73.00 to	74.00
Cut structural plate, 2 ft. and under	85.00 to	86.00
Cut structural plate, 5 ft. and under	70.00 to	71.00
Unstripped motor blocks	52.00 to	53.00
Cupola cast	83.00 to	84.00

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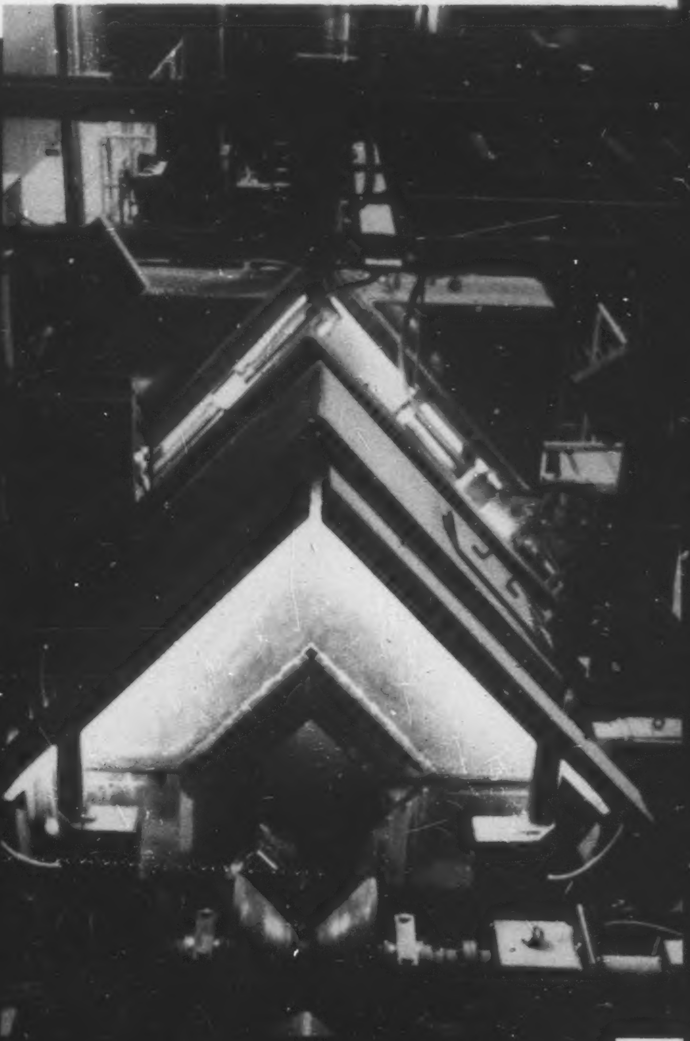
IRON AGE
JUNE 1987
METALS PRODUCER

STEEL TAKES A HARD LOOK AT SURFACE INSPECTION



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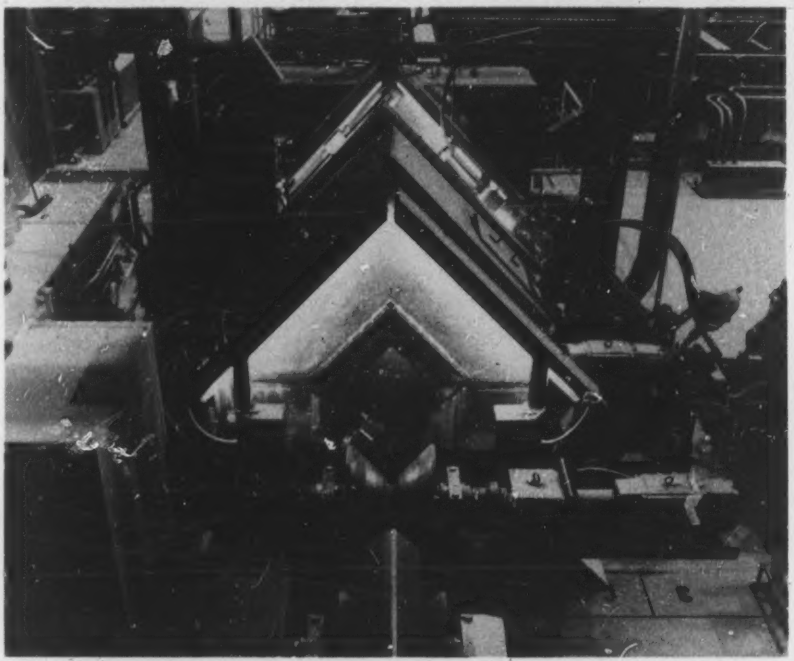
CONTENTS

JUNE 1987, Vol. 3, No. 6

Surface Inspection: Electronics are opening the way for the steel industry to make dramatic gains in inspection technology.

Special Feature-P.17



Billet surfaces are inspected at Timken's Faircrest plant.

EDITORIAL

P.3 – Who's Wearing The Black Hats Around Here?

NEWSWATCH

P.7 – Wheeling-Pittsburgh
A new chief executive takes over at the financially troubled steelmaker.

ORDER TRENDS

P.13 – Defense Orders
Military outlays pushed the overall orders total up sharply in March.

INSPECTION

P.17 – Inspection Equipment
Though the industry is awash in new inspection technology, there's little money to spend on this equipment.

ROLLING MILLS

P.23 – Tuscaloosa Steel
The new plate mill was up and rolling in time to catch this year's rebound in the plate market.

EARNINGS

P.29 – First Quarter Profits
The major steel producers posted profits in the first quarter, but much of the money came from a government refund for unused investment credits.

FURNACES

P.34 – Klockner-CRA
With two new processes ready for the hot end of the mill, it continues its emphasis on efficient heat transfer.

CONTINUOUS CASTING

P.36 – Natco
The company has opened a new facility as a step in its plan to become the leader in mold powder technology.

SHEET STEEL

P.38 – Inland Steel
The Midwest steelmaker is joining forces with Nippon Steel to build a continuous cold processing system.

STEEL BY GEORGE

P.40 – Restructuring
By joining forces, steel companies are able to modernize without creating surplus capacity.

MATERIALS REPORT

P.45 – Steel Summary
Steel producers are revising their market estimates for 1987 upward.

DEPARTMENTS

P.4 – Editorial Staff
P.4 – Letters
P.41 – Product Review
P.44 – Free Literature
P.46 – P&P Data
P.47 – Ferrous Scrap
P.48 – Ad Index
P.48 – Business Staff
P.49 – Reader Service Card

NEXT ISSUE:

Continuous Strip Casting

Iron Age Metals Producer (UPS 269-780) is published monthly by Fairchild Publications, 7 East 12th St., New York, N.Y. 10003. Fairchild Publications is a division of Capital Cities Media, Inc., New York, N.Y. Second Class Postage Paid at New York, N.Y. and additional mailing offices. Iron Age Metals Producer is sent on a controlled free basis to qualified managers in the primary metals industry. All others: $30 one year (U.S.), $56 one year (Canada/Foreign). Single copies, $3.00. Send address changes to Iron Age Metals Producer, P.O. Box 3026, Wheaton, IL, 60189.

DEFENSE ORDERS LAUNCH A NEW OFFENSIVE

Defense orders continue to set the pace for the nation durable goods manufacturers.

In March, according to the U.S. Commerce Department, orders for durable goods rose $3.8 billion, or 3.7 pct, to $105.8 billion. That total was the largest figure for one month since the record $106 billion in orders last December.

Much of the gain can be attributed to new orders for defense capital goods. Commerce officials noted that military orders were up 39 pct to $9.7 billion, while orders for nondefense capital goods rose 1.7 pct to $27.3 billion in March.

Excluding the defense outlays, overall durable goods orders were up 1.2 pct for the month, they said.

Within the major industry categories, transportation equipment posted the largest month-to-month gain. Here again, Commerce officials reported, much of the impetus was the increase in military spending for aircraft and parts and for shipbuilding.

Primary metals orders rose $500 million, or 5.9 pct, during the month to $8.7 billion. Orders for nonelectrical machinery posted a $300 million rise to $17.1 billion in March, while orders for electrical machinery fell $800 million, or 4.6 pct, to $16.3 billion. Much of the loss in that category was due to a decline in orders for communication equipment, Commerce officials said.

In addition, they reported that shipments of durable goods increased 1.2 pct to $104.9 billion in March. Meanwhile, factory inventories of durable goods slipped 0.4 pct to $207.8 billion. All industry segments registered declines except motor vehicles and parts, the department noted. That category posted a 1.6 pct rise in inventories in March.

Billions of Dollars, Seasonally adjusted Monthly Total, unless otherwise noted Source: U.S. Dept of Commerce		Latest Month or Qtr.	Previous Month or Qtr.	Same Period Year Ago
CAPITAL EXPENDITURES (Annual Rates)				
U.S. Industry, Total	2nd Q*	$393.4	$386.8	$375.9
Manufacturing, Total	2nd Q*	145.2	141.2	141.7
Manufacturing, Durable Goods	2nd Q*	72.4	67.9	68.3
Mining Industry	2nd Q*	10.6	10.4	11.2
KEY INDICATORS, Durable Goods Manufacturing				
New Orders	March	105.8	101.9	100.9
Shipments	March	104.9	103.6	97.7
Inventories	March	207.8	208.6	212.7
Unfilled Orders	March	358.2	357.3	369.1
NEW ORDERS, METALWORKING				
Capital Goods Producers, Nondefense Industries	March	27.3	26.9	26.6
Capital Goods Producers Defense Industries	March	9.7	7.0	12.2
Primary Metals, Total	March	8.7	8.2	8.3
Steel (SIC 331)	March	3.7	3.4	3.7
Iron & Steel Castings (SIC 332)	March	7.2	7.6	8.7
Nonferrous Metals	March	4.3	4.1	3.8
Nonelectrical Mach.-Equip. Industries, Total	March	17.1	16.8	16.1
Engines & Turbines	March	1.5	1.1	1.2
Construction, Mining & Mat. Hdlg. Equip	March	2.2	2.1	2.1
Metalworking Machinery	March	0.8	0.7	0.7
Machine Tools, Total ($Mill.)**	March	165.2	152.9	214.6
Machine Tools, Metalcutting**	March	124.5	103.7	159.9
Machine Tools, Metalforming**	March	40.7	49.2	54.7
Electrical Mach. & Equip. Industries, Total	March	16.3	17.1	16.9
Elec. Transmission & Ind. Equip.	March	2.2	2.3	2.1
Household Appliances	March	1.6	1.6	1.3
Communication Equipment	March	4.2	4.9	6.0
Transportation Equipment, Total	March	30.3	27.3	29.3
Motor Vehicles & Parts (Shipments)	March	17.5	18.2	15.1
Aircraft, Missiles & Parts	March	9.9	7.8	9.9
Shipbuilding & Military Tanks	March	1.7	0.4	3.2
Fabricated Metal Products, Total	March	11.4	11.2	10.7
Instruments, Total	March	5.2	5.1	4.9

*Est. – Commerce Dept; **Source: NMTBA

1ST QUARTER EARNINGS

STEEL GETS A TAX CHECK

Most of the major steel producers posted profits in the first quarter, but that was no great achievement. Much of the money came from a government refund for unused investment credits.

The steel industry didn't turn any corners in the first quarter of 1987.

Most mills showed gains over the first quarter of 1986, but that was no great achievement. All the six largest mills lost money in the 1986 winter quarter.

With steel prices up and with volume better than expected, it might have been thought the industry's cost cutting efforts would finally show some positive results. That didn't happen. Some of the profit margins were impressive until you discovered the companies got a quiet helping hand from the government.

The $62 million profit of Inland Steel Co. came to 7.4 pct of first quarter sales. Armco earned $52 million or 7.2 pct of sales. For Inland, $50 million of the profit came from a refund for unused investment credits. Armco got nearly $42 million from the same source.

The unique Federal handout, which has received amazingly little attention, was a onetime sop to an industry that will be hurt directly and indirectly by the repeal of the investment tax credit.

USX Corp. reported a loss of $97 million for the first quarter. This was rated a good showing considering the fact that there was no steel production in January and only limited shipments after that.

"We expect steel to have a modest operating income in the second quarter," said David M. Roderick, chairman of USX. In the first quarter and since then, USX made good on its pledge to re-enter the market in an orderly manner and avoid disruptive pricing. The restraint of USX is credited with giving the industry a shot at profitable pricing.

The full price test will probably come in the summer. "In the last half of 1987," said Mr. Roderick, "we expect to achieve our pre-strike market share...." Hopefully, the market spurt now underway will continue in the third quarter, and demand will be strong enough to support proposed price increases along with an expansion of the USX share of the business.

Bethlehem Steel Corp. reported a profit of $25.6 million for the first quarter. With the investment credit refund providing over $32 million, the reported profit was disappointing to analysts. Bethlehem's steel segment had an operating profit of $49 million. That compared with an operating loss of $36 million in the first quarter of 1986.

During the quarter, Bethlehem maintained a cash position of more than $460 million. That was up from only $161 million a year ago.

Bethlehem Chairman Walter F. Williams had only gloomy words about the life expectancy of steel. "For the foreseeable future," said Mr. Williams, "we believe the industry will remain mired in a vicious circle of too much steel supply chasing too little demand with high exit costs preventing the needed downsizing." He renewed the industry's pitch for government funding of steel plant closings.

National Steel Corp. reported a loss of $5.6 million in the first quarter. National's showing would have been even worse if the company hadn't received nearly $18 million in investment credit refunds.

National attributed its loss to a blast furnace reline at Granite City and to breakdowns of both hot and cold mills at Great Lakes. Other companies have had production problems. Inland Steel had blast furnace and basic

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STEEL: THE CHECK WAS IN THE MAIL

FIRST QUARTER PROFIT REPORT—1987 (In Millions of Dollars)

	EARNINGS				SALES		
	E/S	1st Q 1987	1st Q 1986	Pct Change	1st Q 1987	1st Q 1986	Pct Change
USX	–	(97.0)	(249.0)	–	$2,790.0	$4,651.0	–40.0
LTV	6.8	129.6	(109.1)	–	1,910.0	1,800.0	+6.1
BETHLEHEM	2.3	26.6	(91.8)	–	1,130.7	1,168.6	–3.2
INLAND	7.4	62.5	(22.0)	–	842.6	754.1	+12.0
ARMCO	7.2	52.5	(62.9)	–	727.8	681.4	+6.8
NATIONAL	–	(5.6)	(39.4)	–	537.4	472.5	+14.0
TOTAL	2.1	(167.6)	(574.2)	–	7,938.5	9,527.6	–17.0
CYCLOPS	1.9	7.3	6.1	+20.0	378.3	337.5	+12.0
WEIRTON	8.1	27.9	8.9	+234.0	346.2	287.0	+21.0
NUCOR	5.8	10.8	12.0	–10.0	186.8	189.0	–1.1
CARPENTER	–	(0.8)	4.1	–	125.4	141.7	–12.0
LUKENS	2.6	2.9	0.5	+532.0	110.6	92.9	+19.0
FLORIDA	4.2	3.7	1.4	+163.0	88.6	71.8	+23.0
QUANEX	–	(1.6)	(5.1)	–	76.5	82.1	–6.8
ACME	4.0	2.9	2.8	+5.4	74.4	60.3	+23.0
LACLEDE	1.5	0.9	0.3	+262.0	64.8	57.8	+12.0
BIRMINGHAM	4.0	2.4	2.0	+21.0	59.1	39.6	+49.0
CF&I	–	(5.0)	(2.4)	–	55.4	50.9	+9.0
EASTMET	–	(1.0)	(1.7)	–	26.8	38.2	–30.0

oxygen outages. The production snags help explain why steel supply has remained tight and steel prices have stayed firm.

LTV Corp. reported an operating income of $101 million for its steel business. That was up from a loss of $60 million in the first quarter of 1986. Reflecting its bankrupt state, LTV's interest charges fell from $76 million in the first quarter of 1986 to $4.7 million in the 1987 quarter.

Weirton Steel Corp. continued as the most profitable of the large mills in the first quarter. Weirton's profit of nearly $28 million came to more than 8 pct of sales. There was no mention of any investment credit refund in the company's statement.

"The upswing in volume combined with firmer selling products largely accounted for the rebound in earnings," said Robert L. Loughhead, chairman of Weirton. Mr. Loughhead reported good orders through the first half.

Like many steel executives, he was bearish about the second half. "Our expectation is that domestic demand will suffer a gradual downward trend over the long term," he said.

Carpenter Technology Corp. had a small loss in the first quarter. Carpenter would have been profitable had it not been for a special charge of $9.4 million for early retirements and for separations. The charge indicated how costly it is to make cutbacks. Only 340 hourly employees were given early retirement at Carpenter.

Lukens, Inc., had a profit of more than $2.9 million in the first quarter. This was of special interest because Lukens makes steel plates and the plate business has been depressed for the last five years.

The Lukens showing could mean heavy construction is finally making an appearance. Unlike most steel companies, Lukens believes there has been a basic market improvement. "We are currently experiencing improved business across a number of our markets," said W. R. Wilson, president of Lukens.

"Because of the weaker dollar, some plate steel customers who also experienced strong import competition are recapturing business that previously would have gone offshore," said Mr. Wilson. "Also, passage of the Surface Transportation Assistance Act should strengthen an already healthy bridge construction market."

Both Florida Steel Corp. and Nucor Corp. continued to make money. Nucor's earnings were down from 1986 but were still more than respectable. Florida, meanwhile, posted $3.7 million in profits during the first quarter of this year compared with $1.4 million during the same period last year.

Acme Steel Co., seems to be faring well as an independent company. Acme had a 4 pct return on sales in the first quarter.

By George J. McManus

MATERIALS PRICES

PRICE & PRODUCTION DATA

(Effective May 4, 1987)

Steel production by districts, thousands of tons
(000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	245	221	196	192
Pittsburgh	192	184	194	244
Youngstown	122	116	116	107
Lake Erie	137	128	121	125
Detroit	155	157	154	127
Chicago	493	479	453	496
Midwest	207	197	194	172
Southern	192	185	170	199
Western	56	54	52	84
U.S. Production	1,799	1,721	1,650	1,746

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium

Pellets (per iron unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.45-86.9***
Mesabi, regular-unscreened	gross-ton 32.53
Mesabi, non-bessemer	gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper lake ports. ***72.45¢—Cleveland-Cliffs as of 12/30/86. 72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82, Hanna Mining 2/26/82

STEEL PRODUCTION, COMPOSITE PRICES

(Effective May 4, 1987)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,799	1,721	27,507	30,959
Capability Utilization Rate	83.6	80.0	73.3	71.4

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 1/4/87)	25.236	25.236	25.236	24.607
Pig Iron** (Net ton= 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 73.50	$ 73.17	$ 73.17	$ 71.50
No. 2 bundles	$. 50.83	$ 49.83	$ 49.83	$ 52.17

Scrap Comparison (Gross Ton)				
No. 1 steel, Pittsburgh	$ 79.50	$ 76.50	$ 76.50	$ 70.50
No. 1 steel, Philadelphia	68.50	70.50	70.50	71.50
No. 1 steel, Chicago	72.50	72.50	72.50	72.50
No. 1 bundles, Detroit	78.50	66.50	66.50	57.50
Low Phos., Youngstown	79.50	75.50	75.50	70.50
No. 1 mach'y cast., Pgh	81.50	74.50	74.50	73.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	93.50	93.50	93.50	107.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.

**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.

***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago

NONFERROUS PRICES

(Effective May 4, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	61.00	61.00	5/1/87
Copper (C)	66.50	67.00	4/27/87
Lead	31.00	28.00	4/27/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	187.00	179.00	5/1/87
Zinc	47.00	44.50	10/6/86

ALUMINUM: Avg. for last week & previous week. COPPER (C)=cathode. LEAD: common grade. MAGNESIUM: 99.8% pig, delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade

Antimony, American Loredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$152.00
Beryllium 97% powder 200	$196.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz.	$456.75
Indium, per troy oz.	$4.70
Iridium, per troy oz.	$405.00
Magnesium sticks, 10,000 lbs.	$2.12
Mercury, per 76-lb., f.o.b. N.Y.	$285.00-305.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.45
Palladium, per troy oz.	$143.00
Platinum, per troy oz.	$609.00
Rhodium, per troy oz.	$1,245.00
Silver ingots, per troy oz.	$8.08
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red.	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.20-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

April 27—301.00
April 28—301.00
April 29—301.00
April 30—300.00
May 1—301.00

Scrap Prices
Brass Mill Scrap

(Cents per lb., over 20,000 lbs. add 1¢ per lb.)

	Solids	Turnings
Copper	55½	51½
Yellow brass	50	49
Red brass	51	47
Comm. bronze	52½	47½
Mang. bronze	39½	38½
Free cutting rod ends	49	48

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	56
No. 2 copper wire	47
Light copper	41

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	49
No. 2 copper wire	41
Light copper	34
No. 1 composition	42
No. 1 comp. turnings	42
Hvy. yellow brass solids	30
Hvy. yellow brass turnings	24
Radiators	28

Aluminum	
New mixed clips	39 — 40
Old sheet	33 — 34
Old cast	33 — 34
Clean dry borings	34 — 35

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	34 — 35
Mixed L.C. clips	33 — 34
Old sheets and cast	27 — 28
Borings and turnings	23 — 24
Duraluminum clippings	27 — 28

Copper and Brass

No. 1 copper wire	45 — 48
No. 2 copper wire	36 — 37
Light copper	33 — 34
Radiators	23 — 24
No. 1 composition	37 — 38
No. 1 composition turnings	35 — 36
Cocks and faucets	31 — 32
Clean heavy yellow brass	27 — 29
Brass pipe	27 — 28
New soft brass clippings	40 — 41

Lead

Heavy soft lead	10 — 11
Whole batteries	1 — 2
Type metal	19 — 20
Electrotype	13 — 14

Nickel

Nickel solids	110 —120
Nickel rod ends	110 —120
Nickel sheets, clips	110 —120
Nickel turnings	26 — 36

Zinc

New zinc clippings	14 — 15
Old diecast zinc	10 — 11

EFFECTIVE MAY 4, 1987

(Effective May 4, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 79.00 to	$ 80.00
No. 2 hvy. melting	69.00 to	70.00
No. 1 dealer bundles	103.00 to	104.00
No. 1 factory bundles (auto)	107.00 to	108.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	98.00 to	99.00
Machine shop turnings	10.00 to	11.00
Shoveling turnings	46.00 to	47.00
Cast iron borings	43.00 to	44.00
Low phos. punchings plate	108.00 to	109.00
Heavy turnings	69.00 to	70.00
No. 1 RR hvy. melting	90.00 to	91.00
Rails, 2 ft. and under	102.00 to	103.00
Scrap rails, random lgth	86.00 to	87.00
RR specialties	100.00 to	101.00
No. 1 machinery cast	81.00 to	82.00
Cupola cast	71.00 to	72.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	500.00 to	510.00
18-8 turnings	400.00 to	410.00

Chicago

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	68.00 to	69.00
No. 1 dealer bundles	94.00 to	95.00
No. 1 factory bundles (auto)	99.00 to	100.00
No. 2 dealer bundles	60.00 to	61.00
No. 1 busheling	84.00 to	85.00
Shredder scrap	83.00 to	84.00
Machine shop turnings	22.00 to	23.00
Mixed borings and turnings	15.00 to	16.00
Shoveling turnings	25.00 to	26.00
Cast iron borings	40.00 to	41.00
Low phos. forge crop	92.00 to	93.00
Low phos. punchings plate 1/4 in. and heavier	107.00 to	108.00
Low phos. 2 ft. and under	100.00 to	101.00
No. 1 RR hvy. melting	76.00 to	77.00
Scrap rails random lgth	81.00 to	82.00
Reroller rails	101.00 to	102.00
Rails, 2 ft. and under	93.00 to	94.00
RR couplers and knuckles	73.00 to	74.00
RR car axles	106.00 to	107.00
No. 1 machinery cast	93.00 to	94.00
Cupola cast	83.00 to	84.00
Stove plate	96.00 to	97.00
Steel car wheels	93.00 to	94.00
Stainless		
18-8 bundles and solids	470.00 to	480.00
18-8 turnings	350.00 to	360.00
430 bundles and solids	130.00 to	140.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 67.00 to	$ 70.00
No. 2 hvy. melting	59.00 to	62.00
No. 1 dealer bundles	91.00 to	94.00
No. 2 dealer bundles	42.00 to	45.00
No. 1 busheling	83.00 to	86.00
Shredder scrap	84.00 to	87.00
Machine shop turnings	24.00 to	27.00
Mixed borings and turnings	24.00 to	27.00
Shoveling turnings	39.00 to	42.00
Low phos. 5 ft. and under	78.00 to	81.00
Low phos. 2 ft. punchings	96.00 to	99.00
Electric furnace bundles	93.00 to	96.00
RR specialties	80.00 to	83.00
Rails, 2 ft. and under	96.00 to	99.00
Cupola cast	78.00 to	81.00
Heavy breakable cast	52.00 to	55.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 51.00 to	$ 52.00
No. 2 hvy. melting	49.00 to	50.00
No. 1 dealer bundles	78.00 to	79.00
No. 2 bundles	36.00 to	37.00
No. 1 busheling	76.00 to	77.00
Drop forge flashings	45.00 to	46.00
Machine shop turnings	18.00 to	19.00
Mixed borings and turnings	7.00 to	8.00
Shoveling turnings	18.00 to	19.00
Cast iron borings	20.00 to	21.00
Heavy breakable cast	32.00 to	33.00
Mixed cupola cast	47.00 to	48.00
Automobile cast	71.00 to	72.00
Stainless		
18-8 bundles and solids	470.00 to	480.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 63.00 to	$ 64.00
No. 2 hvy. melting	62.00 to	63.00
No. 1 dealer bundles	86.00 to	87.00
No. 2 dealer bundles	36.00 to	37.00
Machine shop turnings	16.00 to	17.00
Shoveling turnings	16.00 to	17.00
Low phos. plate	79.00 to	80.00
Electric furnace bundles	69.00 to	70.00
Galvanized bundles	66.00 to	67.00

Cleveland

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 59.00 to	$ 60.00
No. 2 hvy. melting	56.00 to	57.00
No. 1 dealer bundles	83.00 to	84.00
No. 1 factory bundles	85.00 to	86.00
No. 2 bundles	35.00 to	36.00
No. 1 busheling	77.00 to	78.00
Machine shop turnings	15.00 to	16.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	20.00 to	[illegible]
Cut structural & plates, 5 ft. and under	70.00 to	71.00
Cut structural & plates, 2 ft. and under	93.00 to	94.00
Low phos. punchings plate	93.00 to	94.00
Foundry steel, 2 ft. & under	57.00 to	58.00
No. 1 RR hvy. melting	65.00 to	66.00
Rails, 2 ft. and under	97.00 to	98.00
Rails, 18 in. and under	99.00 to	100.00
No. 1 machinery cast	84.00 to	85.00
Mixed cast	51.00 to	52.00
Stainless		
18-8 bundles	475.00 to	485.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 56.00 to	$ 57.00
No. 2 hvy. melting	46.00 to	47.00
No. 1 busheling	79.00 to	80.00
No. 1 dealer bundles	80.00 to	81.00
No. 2 bundles	29.00 to	30.00
Machine shop turnings	13.00 to	14.00
Mixed borings and turnings	13.00 to	14.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	27.00 to	28.00
Low phos. plate	79.00 to	80.00
Structural and plate, 2 ft. and under	80.00 to	81.00
Rails, 2 ft. and under	81.00 to	82.00
Scrap rails, random lgth	65.00 to	66.00
No. 1 machinery cast	77.00 to	78.00
No. 1 cupola cast	71.00 to	72.00

St. Louis

No. 1 hvy. melting	$ 69.00 to	$ 70.00
No. 2 hvy. melting	59.00 to	60.00
No. 1 busheling	84.00 to	85.00
No. 1 dealer bundles	88.00 to	89.00
No. 2 bundles	57.00 to	58.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	26.00 to	27.00
No. 1 RR hvy. melting	80.00 to	81.00
Rails, random length	79.00 to	80.00
Rails, 5 ft. and under	89.00 to	90.00
RR specialties	80.00 to	81.00
Cupola cast	66.00 to	67.00
Heavy breakable cast	40.00 to	41.00
Stove plate	87.00 to	88.00
Steel car wheels	87.00 to	88.00
Rerolling rails	102.00 to	103.00
Unstripped motor blocks	60.00 to	61.00

Birmingham

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	67.00 to	68.00
No. 1 dealer bundles	72.00 to	73.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	72.00 to	73.00
Shredder scrap	88.00 to	89.00
Machine shop turnings	28.00 to	29.00
Shoveling turnings	37.00 to	38.00
Cast iron borings	34.00 to	35.00
Electric furnace bundles	68.00 to	69.00
Elec. furnace, 3 ft. & under	74.00 to	75.00
Structural and plate, 2 ft.	91.00 to	92.00
Structural and plate, 4 ft.	86.00 to	87.00
No. 1 RR hvy. melting	86.00 to	87.00
Scrap rails, random lgth	77.00 to	78.00
Rails, 2 ft. and under	94.00 to	95.00
Angles and splice bars	86.00 to	87.00
No. 1 cupola cast	82.00 to	83.00
Unstripped motor blocks	74.00 to	75.00

Cincinnati

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 58.00 to	$ 59.00
No. 2 hvy. melting	52.00 to	53.00
No. 1 dealer bundles	80.00 to	81.00
No. 2 bundles	31.00 to	32.00
Machine shop turnings	12.00 to	13.00
Shoveling turnings	15.00 to	16.00
Cast iron borings	24.00 to	25.00
Low phos. 18 in. and under	84.00 to	85.00
Rails, random length	68.00 to	69.00
Rails, 2 ft. and under	88.00 to	89.00
No. 1 cupola cast	68.00 to	69.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	73.00 to	74.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	31.00 to	32.00
No. 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	395.00 to	415.00
18-8 turnings	310.00 to	330.00
430 prepared solids	100.00 to	110.00
430 solids	85.00 to	95.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 49.00 to	$ 51.00
No. 2 hvy. melting	39.00 to	41.00
No. 1 dealer bundles	58.00 to	60.00
No. 2 bundles	32.00 to	34.00
No. 1 busheling	56.00 to	58.00
Shredder scrap	59.00 to	61.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	72.00 to	77.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 40.00 to	$ 42.00
No. 2 hvy. melting	34.00 to	36.00
No. 1 dealer bundles	31.00 to	33.00
No. 2 dealer bundles	20.00 to	21.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	80.00 to	82.00

Los Angeles

No. 1 hvy. melting	$ 34.00 to	$ 36.00
No. 2 hvy. melting	28.00 to	30.00
No. 1 dealer bundles	26.00 to	28.00
No. 2 dealer bundles	16.00 to	18.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
Elec. furnace, 1 ft. and under (foundry)	67.00 to	69.00
No. 1 cupola cast	72.00 to	74.00

Seattle

No. 1 hvy. melting	$ 60.00 to	$ 62.00
No. 2 hvy. melting	51.00 to	53.00
No. 2 bundles	35.00 to	37.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 76.00
No. 2 hvy. melting, cut 2 ft. and under	66.00
No. 1 dealer bundles	86.00
No. 2 bundles	58.00
Mixed steel scrap	51.00
Bush. new fact. prep'd	86.00
Bush. new fact. unprep'd	69.00
Machine shop turnings	30.00
Short steel turnings	30.00
Mixed borings and turning	19.00
Cast scrap	90.00

Houston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 62.00 to	$ 63.00
No. 2 hvy. melting	52.00 to	53.00
No. 2 bundles	33.00 to	34.00
Machine shop turnings	13.00 to	14.00
Crushed turnings	23.00 to	24.00
Shredder scrap	73.00 to	74.00
Cut structural plate, 2 ft. and under	83.00 to	84.00
Cut structural plate, 5 ft. and under	70.00 to	71.00
Unstripped motor blocks	52.00 to	53.00
Cupola cast	83.00 to	84.00

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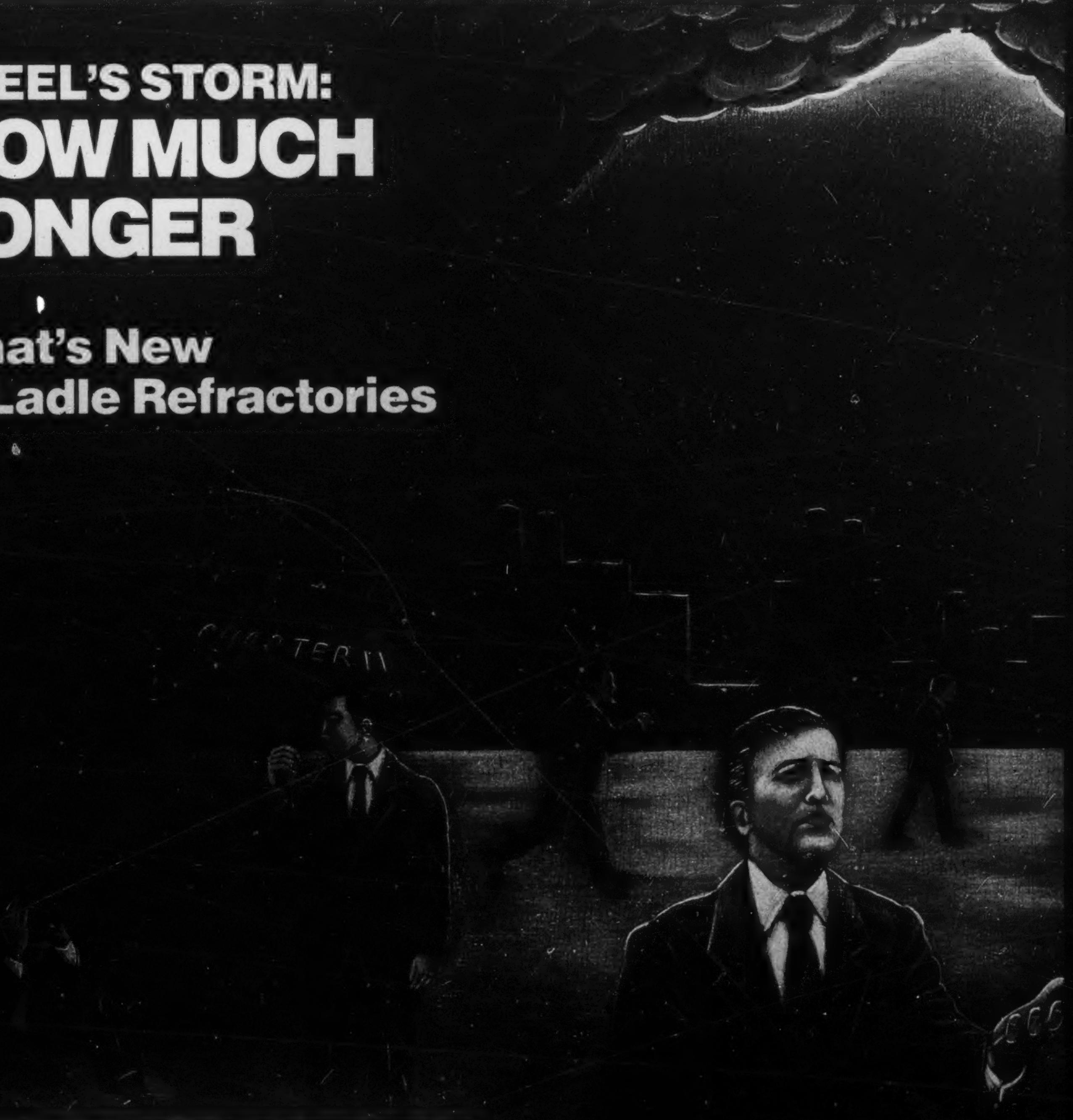
STEEL'S STORM: HOW MUCH LONGER

What's New in Ladle Refractories



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CONTENTS

JULY 1987, Vol. 3, No. 7

Steel marketing: Efforts to get closer to customers are changing the way companies market their products.

Special Feature-P.16

Wider distribution is one way to win customers.

STEEL BY GEORGE

P.4—Can the U.S. get along without imports?

EDITORIAL

P.5—You could do better just flipping a coin.

NEWSWATCH

P.11—Overcapacity
White House officials have no early answer to steel overcapacity and pension problems.

STEEL MARKETING

P.16—New Directions
Some steelmakers are opening processing centers while others are widening their distributor networks.

BUSINESS FORECAST

P.19—Second Half
The outlook for the economy is bright but steel shipments may slow.

REFRACTORIES

P.26—Steel Ladles
Hotter temperatures and longer holding periods in ladles require new materials.

AUTOMOTIVE MATERIALS

P.31—A Battleground
Plastics parts makers that have set up design centers in Detroit are stealing a march on the steel industry.

STEEL INDUSTRY

P.35—Asking for Aid
The steel industry finds itself relying more on the government.

INTEGRATED STEEL

P.41—Stelco
Operations at Stelco are stable now that cutbacks have run their course.

MATERIALS REPORT

P.43—Steel Summary
Plate and structural orders are increasing in a cautious market.

DEPARTMENTS

P.6—Editorial Staff
P.39—Industrial Briefs
P.44—P&P Data
P.45—Ferrous Scrap
P.46—Free Literature
P.47—Clearing House
P.48—Ad Index
P.48—Business Staff
P.49—Reader Service Card

NEXT ISSUE:

Technology Advances in Continuous Strip Casting

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MATERIALS PRICES

PRICE & PRODUCTION DATA

(Effective June 1, 1987)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	240	234	245	173
Pittsburgh	183	183	192	232
Youngstown	113	112	122	103
Lake Erie	134	135	137	115
Detroit	156	161	155	157
Chicago	443	446	493	470
Midwest	193	186	207	166
Southern	185	184	192	201
Western	53	52	56	86
U.S. Production	1,700	1,693	1,799	1,703

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.45-86.9***
Mesabi, regular-unscreened	gross-ton 32.53
Mesabi, non-bessemer	gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather 8/1/85, delivered hold of vessel, upper Lake ports. ***72.45¢—Cleveland Cliffs as of 12/30/86. 72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82. Hanna Mining 2/26/82.

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No. 1 bundles, Detroit	90.50	78.50	78.50	57.50
Low Phos., Youngstown	87.50	79.50	79.50	68.50
No. 1 mach'y cast., Pgh	81.50	81.50	81.50	73.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	101.50	96.50	93.50	105.50

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Aluminum (LME)	63.50	63.00	6/1/87
Copper (C)	70.00	71.00	5/29/87
Lead	37.00	35.00	5/26/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	197.00	193.00	6/1/87
Zinc	45.00	44.50	5/11/87

ALUMINUM: Avg. for last week & previous week. COPPER (C)=cathode. LEAD: common grade. MAGNESIUM: 99.8% pig delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$152.00
Beryllium 97% powder 200	$196.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz	$451.00
Indium, per troy oz	$6.50
Iridium, per troy oz	$406.00
Magnesium sticks, 10,000 lbs.	$2.12
Mercury, per 76-lb., f.o.b. N.Y.	$290.00-310.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.45
Palladium, per troy oz	$150.00
Platinum, per troy oz	$617.00
Rhodium, per troy oz	$1,273.00
Silver ingots, per troy oz	$7.61
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.20-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

May 25—299.00
May 26—299.00
May 27—299.00
May 28—302.00
May 29-Holiday

Scrap Prices
Brass Mill Scrap

(Cents per lb., over 20,000 lbs. add 1¢ per lb.)

	Solids	Turnings
Copper	57	52
Yellow brass	50½	49½
Red brass	51½	47½
Comm. bronze	53	48
Mang. bronze	40	39
Free cutting rod ends	49½	48½

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	56
No. 2 copper wire	47
Light copper	41

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	50
No. 2 copper wire	42
Light copper	35
No. 1 composition	43
No. 1 comp. turnings	43
Hvy. yellow brass solids	31
Hvy. yellow brass turnings	25
Radiators	29

Aluminum

New mixed clips	42 — 43
Old sheet	36 — 37
Old cast	36 — 37
Clean dry borings	37 — 38

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	37 — 38
Mixed L.C. clips	36 — 37
Old sheets and cast	30 — 31
Borings and turnings	25 — 26
Duraluminum clippings	30 --- 31

Copper and Brass

No. 1 copper wire	46 — 49
No. 2 copper wire	37 — 38
Light copper	34 — 35
Radiators	24 — 25
No. 1 composition	38 — 39
No. 1 composition turnings	36 — 37
Cocks and faucets	32 — 33
Clean heavy yellow brass	28 — 30
Brass pipe	31 — 33
New soft brass clippings	42 — 43

Lead

Heavy soft lead	13 — 14
Whole batteries	1 — 2
Type metal	22 — 23
Electrotype	15 — 16

Nickel

Nickel solids	122 —132
Nickel rod ends	130 —140
Nickel sheets, clips	130 —140
Nickel turnings	28 — 38

Zinc

New zinc clippings	16 — 17
Old diecast zinc	12 — 13

MATERIALS PRICES

EFFECTIVE JUNE 1, 1987

(Effective June 1, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 82.00 to	$ 83.00
No. 2 hvy. melting	72.00 to	73.00
No. 1 dealer bundles	114.00 to	115.00
No. 1 factory bundles (auto)	118.00 to	119.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	107.00 to	108.00
Machine shop turnings	10.00 to	11.00
Shoveling turnings	46.00 to	47.00
Cast iron borings	43.00 to	44.00
Low phos. punchings plate	119.00 to	120.00
Heavy turnings	72.00 to	73.00
No. 1 RR hvy. melting	92.00 to	93.00
Rails, 2 ft and under	104.00 to	105.00
Scrap rails, random lgth	88.00 to	89.00
RR specialties	105.00 to	106.00
No. 1 machinery cast	81.00 to	82.00
Cupola cast	71.00 to	72.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	550.00 to	560.00
18-8 turnings	450.00 to	460.00

Chicago

No. 1 hvy. melting	$ 77.00 to	$ 78.00
No. 2 hvy. melting	73.00 to	74.00
No. 1 dealer bundles	105.00 to	106.00
No. 1 factory bundles (auto)	104.00 to	105.00
No. 2 dealer bundles	64.00 to	65.00
No. 1 busheling	94.00 to	95.00
Shredder scrap	87.00 to	88.00
Machine shop turnings	22.00 to	23.00
Mixed borings and turnings	15.00 to	16.00
Shoveling turnings	25.00 to	26.00
Cast iron borings	40.00 to	41.00
Low phos. forge crop	104.00 to	105.00
Low phos. punchings plate 1/4 in. and heavier	119.00 to	120.00
Low phos. 2 ft and under	114.00 to	115.00
No. 1 RR hvy. melting	94.00 to	95.00
Scrap rails random lgth	84.00 to	85.00
Reroller rails	101.00 to	102.00
Rails, 2 ft and under	98.00 to	99.00
RR couplers and knuckles	89.00 to	90.00
RR car axles	117.00 to	118.00
No. 1 machinery cast	101.00 to	102.00
Cupola cast	88.00 to	89.00
Stove plate	100.00 to	101.00
Steel car wheels	107.00 to	108.00
Stainless		
18-8 bundles and solids	500.00 to	510.00
18-8 turnings	370.00 to	380.00
430 bundles and solids	140.00 to	150.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 70.00 to	$ 73.00
No. 2 hvy. melting	62.00 to	65.00
No. 1 dealer bundles	92.00 to	95.00
No. 2 dealer bundles	42.00 to	45.00
No. 1 busheling	90.00 to	93.00
Shredder scrap	86.00 to	89.00
Machine shop turnings	24.00 to	27.00
Mixed borings and turnings	24.00 to	27.00
Shoveling turnings	35.00 to	38.00
Low phos. 5 ft and under	80.00 to	83.00
Low phos. 2 ft punchings	96.00 to	99.00
Electric furnace bundles	105.00 to	108.00
RR specialties	80.00 to	83.00
Rails, 2 ft and under	96.00 to	99.00
Cupola cast	78.00 to	81.00
Heavy breakable cast	52.00 to	55.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 53.00 to	$ 54.00
No. 2 hvy. melting	51.00 to	52.00
No. 1 dealer bundles	90.00 to	91.00
No. 2 bundles	38.00 to	39.00
No. 1 busheling	88.00 to	89.00
Drop forge flashings	53.00 to	54.00
Machine shop turnings	21.00 to	22.00
Mixed borings and turnings	7.00 to	8.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	22.00 to	23.00
Heavy breakable cast	33.00 to	34.00
Mixed cupola cast	48.00 to	49.00
Automobile cast	72.00 to	73.00
Stainless		
18-8 bundles and solids	490.00 to	500.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 70.00 to	$ 71.00
No. 2 hvy. melting	67.00 to	68.00
No. 1 dealer bundles	96.00 to	97.00
No. 2 dealer bundles	41.00 to	42.00
Machine shop turnings	18.00 to	19.00
Shoveling turnings	18.00 to	19.00
Low phos. plate	87.00 to	88.00
Electric furnace bundles	76.00 to	77.00
Galvanized bundles	73.00 to	74.00

Cleveland

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 66.00 to	$ 67.00
No. 2 hvy. melting	60.00 to	61.00
No. 1 dealer bundles	93.00 to	94.00
No. 1 factory bundles	99.00 to	100.00
No. 2 bundles	39.00 to	40.00
No. 1 busheling	88.00 to	89.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	22.00 to	23.00
Cut structural & plates, 5 ft and under	78.00 to	79.00
Cut structural & plates, 2 ft and under	101.00 to	102.00
Low phos. punchings plate	101.00 to	102.00
Foundry steel, 2 ft & under	59.00 to	60.00
No. 1 RR hvy. melting	67.00 to	68.00
Rails, 2 ft and under	99.00 to	100.00
Rails, 18 in. and under	101.00 to	102.00
No. 1 machinery cast	84.00 to	85.00
Mixed cast	51.00 to	52.00
Stainless		
18-8 bundles	495.00 to	505.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 60.00 to	$ 61.00
No. 2 hvy. melting	50.00 to	51.00
No. 1 busheling	85.00 to	86.00
No. 1 dealer bundles	87.00 to	88.00
No. 2 bundles	29.00 to	30.00
Machine shop turnings	13.00 to	14.00
Mixed borings and turnings	13.00 to	14.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	27.00 to	28.00
Low phos. plate	83.00 to	84.00
Structural and plate, 2 ft and under	84.00 to	85.00
Rails, 2 ft and under	89.00 to	90.00
Scrap rails, random lgth	67.00 to	68.00
No. 1 machinery cast	77.00 to	78.00
No. 1 cupola cast	71.00 to	72.00

St. Louis

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	62.00 to	63.00
No. 1 busheling	89.00 to	90.00
No. 1 dealer bundles	92.00 to	93.00
No. 2 bundles	60.00 to	61.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	26.00 to	27.00
No. 1 RR hvy. melting	82.00 to	83.00
Rails, random length	82.00 to	83.00
Rails, 5 ft and under	91.00 to	92.00
RR specialties	83.00 to	84.00
Cupola cast	68.00 to	69.00
Heavy breakable cast	42.00 to	43.00
Stove plate	89.00 to	90.00
Steel car wheels	92.00 to	93.00
Rerolling rails	105.00 to	106.00
Unstripped motor blocks	60.00 to	61.00

Birmingham

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	67.00 to	68.00
No. 1 dealer bundles	72.00 to	73.00
No. 2 bundles	46.00 to	49.00
No. 1 busheling	72.00 to	73.00
Shredder scrap	88.00 to	89.00
Machine shop turnings	28.00 to	29.00
Shoveling turnings	37.00 to	38.00
Cast iron borings	34.00 to	35.00
Electric furnace bundles	68.00 to	69.00
Elec. furnace, 3 ft & under	74.00 to	75.00
Structural and plate, 2 ft	91.00 to	92.00
Structural and plate, 4 ft	84.00 to	85.00
No. 1 RR hvy. melting	84.00 to	85.00
Scrap rails, random lgth	77.00 to	78.00
Rails, 2 ft and under	94.00 to	95.00
Angles and splice bars	86.00 to	87.00
No. 1 cupola cast	82.00 to	83.00
Unstripped motor blocks	74.00 to	75.00

Cincinnati

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 61.00 to	$ 62.00
No. 2 hvy. melting	55.00 to	56.00
No. 1 dealer bundles	88.00 to	89.00
No. 2 bundles	33.00 to	34.00
Machine shop turnings	13.00 to	14.00
Shoveling turnings	16.00 to	17.00
Cast iron borings	25.00 to	26.00
Low phos. 18 in. and under	89.00 to	90.00
Rails, random length	76.00 to	77.00
Rails, 2 ft and under	96.00 to	97.00
No. 1 cupola cast	70.00 to	71.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	75.00 to	76.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	31.00 to	32.00
No. 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	400.00 to	420.00
18-8 turnings	315.00 to	335.00
430 prepared solids	100.00 to	110.00
430 solids	85.00 to	95.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 49.00 to	$ 51.00
No. 2 hvy. melting	39.00 to	41.00
No. 1 dealer bundles	58.00 to	60.00
No. 2 bundles	32.00 to	34.00
No. 1 busheling	56.00 to	58.00
Shredder scrap	59.00 to	61.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	72.00 to	77.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 40.00 to	$ 42.00
No. 2 hvy. melting	34.00 to	36.00
No. 1 dealer bundles	31.00 to	33.00
No. 2 dealer bundles	20.00 to	21.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	80.00 to	82.00

Los Angeles

No. 1 hvy. melting	$ 34.00 to	$ 36.00
No. 2 hvy. melting	28.00 to	30.00
No. 1 dealer bundles	26.00 to	28.00
No. 2 dealer bundles	16.00 to	18.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
Elec. furnace, 1 ft and under (foundry)	67.00 to	69.00
No. 1 cupola cast	72.00 to	74.00

Seattle

No. 1 hvy. melting	$ 60.00 to	$ 62.00
No. 2 hvy. melting	51.00 to	53.00
No. 2 bundles	35.00 to	37.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 76.00
No. 2 hvy. melting, cut 2 ft. and under	66.00
No. 1 dealer bundles	86.00
No. 2 bundles	58.00
Mixed steel scrap	51.00
Bush. new fact. prep'd	86.00
Bush. new fact. unprep'd	69.00
Machine shop turnings	30.00
Short steel turnings	30.00
Mixed borings and turning	19.00
Cast scrap	90.00

Houston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 64.00 to	$ 65.00
No. 2 hvy. melting	54.00 to	55.00
No. 2 bundles	34.00 to	35.00
Machine shop turnings	13.00 to	14.00
Crushed turnings	23.00 to	24.00
Shredder scrap	75.00 to	76.00
Cut structural plate, 2 ft and under	83.00 to	84.00
Cut structural plate, 5 ft and under	72.00 to	73.00
Unstripped motor blocks	52.00 to	53.00
Cupola cast	86.00 to	87.00

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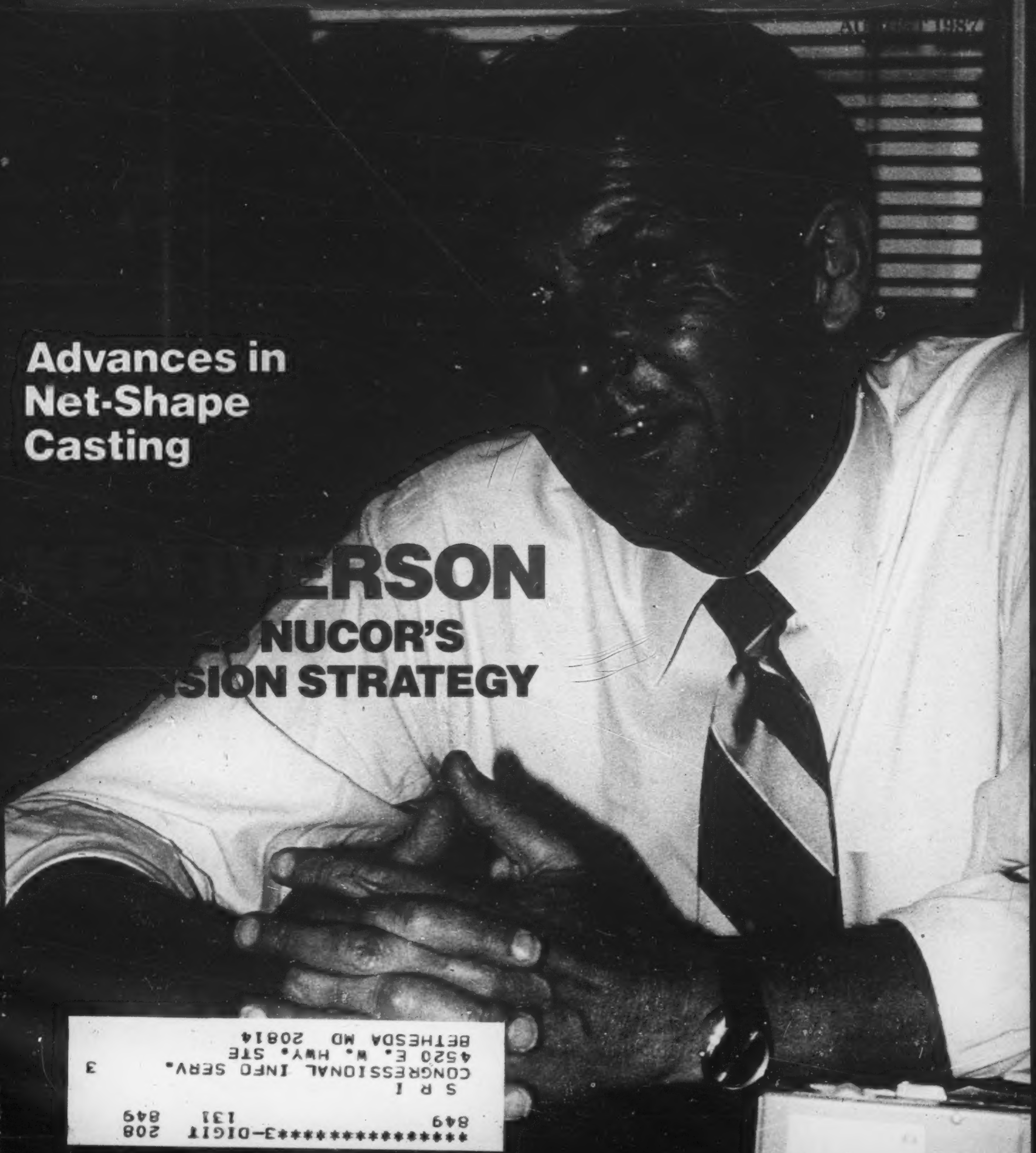
METALS PRODUCER

AUGUST 1987



Advances in Net-Shape Casting

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NUCOR'S
SION STRATEGY

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IRON AGE
METALS PRODUCER

CONTENTS

AUGUST 1987, Vol. 3, No. 8

Strip Casting: Steelmakers are pursuing several new processes as a means to bring liquid steel to the final product form.

Special Feature-P.14

Nucor's Darlington plant is testing the Hazelett process.

STEEL BY GEORGE

P.4—Some economists are not on steel's wavelength.

EDITORIAL

P.5—More fun and games in all the high places.

NEWSWATCH

P.7—Restructuring
Revamping its steel industry could be more painful for the U.S. than it was for the European Economic Community.

STRIP CASTING

P.14—New Processes
The steel industry is looking at everything from casting a two-inch slab to direct casting of thin strip.

MINI-MILLS

P.20—Nucor
Higher profits are enabling the company to plough money into new plants and projects for expanding existing facilities.

SPECIALTY STEEL

P.22—Timken
The Faircrest plant has fulfilled the high expectations Timken had for its new $500 million mill.

McLOUTH STEEL

P.29—McLouth Steel
The troubled steelmaker may have some loyal customers, but debts of more than $100 million are weighing it down.

MATERIALS REPORT

P.35—Steel Summary
Steel producers are pleased but puzzled by the continued strength of demand.

DEPARTMENTS

P.2—Editorial Staff
P.12—Industrial Briefs
P.36—P&P Data
P.37—Ferrous Scrap
P.38—Clearing House
P.40—Ad Index
P.40—Business Staff
P.41—Reader Service Card

NEXT ISSUE:

New Advances in Steel Technology

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MATERIALS PRICES

PRICE & PRODUCTION DATA

(Effective July 6, 1987)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	243	228	223	143
Pittsburgh	153	178	191	169
Youngstown	91	106	107	66
Lake Erie	144	133	130	100
Detroit	153	147	148	125
Chicago	489	472	476	397
Midwest	186	198	189	165
Southern	185	186	185	174
Western	51	52	53	80
U.S. Production	1,695	1,700	1,702	1,419

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.45-86.9***
Mesabi, regular-unscreened	gross-ton 32.53
Mesabi, non-bessemer	gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper lake ports. ***72.45¢—Cleveland Cliffs as of 12/30/86. 72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82. Hanna Mining 2/26/82

STEEL PRODUCTION, COMPOSITE PRICES

(Effective July 6, 1987)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,695	1,700	42,875	45,603
Capability Utilization Rate	79.2	79.0	75.4	69.5

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 1/4/87)	25.236	25.236	25.236	24.850
Pig Iron** (Net ton= 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 79.50	$ 77.83	$ 77.17	$ 71.50
No. 2 bundles	$ 54.17	$ 52.83	$ 52.83	$ 52.50
Scrap Comparison (Gross Ton)				
No. 1 steel, Pittsburgh	$ 85.50	$ 82.50	$ 82.50	$ 71.50
No. 1 steel, Philadelphia	73.50	73.50	71.50	71.50
No. 1 steel, Chicago	79.50	77.50	77.50	71.50
No. 1 bundles, Detroit	100.50	90.50	90.50	66.50
Low Phos., Youngstown	89.50	87.50	87.50	71.50
No. 1 mach'y cast., Pgh	84.50	81.50	81.50	74.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	103.50	101.50	101.50	105.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.

**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.

***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective July 6, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	66.50	63.50	7/6/87
Copper (C)	80.00	75.50	7/6/87
Lead	42.00	38.00	7/6/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	205.00	205.50	7/6/87
Zinc	48.00	45.00	6/10/87

ALUMINUM: Avg. for last week & previous week. COPPER (C)=cathode. LEAD: common grade. MAGNESIUM: 99.8% pig delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$152.00
Beryllium 97% powder 200	$196.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz	$446.25
Indium, per troy oz	$6.60
Iridium, per troy oz	$385.00
Magnesium sticks, 10,000 lbs.	$2.12
Mercury, per 76-lb., f.o.b. N.Y.	$285.00-305.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.45
Palladium, per troy oz	$141.00
Platinum, per troy oz	$553.00
Rhodium, per troy oz	$1,230.00
Silver ingots, per troy oz	$7.37
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red.	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.20-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

June 29—291.00
June 30—291.00
July 1—291.00
July 2—292.00
July 3—290.00

Scrap Prices
Brass Mill Scrap

(Cents per lb., over 20,000 lbs. add 1¢ per lb.)

	Solids	**Turnings**
Copper	57	52
Yellow brass	50½	49½
Red brass	51½	47½
Comm. bronze	53	48
Mang. bronze	40	39
Free cutting rod ends	49½	48½

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	56
No. 2 copper wire	47
Light copper	41

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	51
No. 2 copper wire	43
Light copper	36
No. 1 composition	44
No. 1 comp. turnings	44
Hvy. yellow brass solids	32
Hvy. yellow brass turnings	26
Radiators	30

Aluminum

New mixed clips	44 — 45
Old sheet	38 — 39
Old cast	38 — 39
Clean dry borings	39 — 40

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	39 — 40
Mixed L.C. clips	38 — 39
Old sheets and cast	32 — 33
Borings and turnings	27 — 28
Duraluminum clippings	32 — 33

Copper and Brass

No. 1 copper wire	47 — 50
No. 2 copper wire	38 — 39
Light copper	35 — 36
Radiators	25 — 26
No. 1 composition	39 — 40
No. 1 composition turnings	37 — 38
Cocks and faucets	33 — 34
Clean heavy yellow brass	29 — 31
Brass pipe	32 — 34
New soft brass clippings	43 — 44

Lead

Heavy soft lead	14 — 15
Whole batteries	1 — 2
Type metal	23 — 24
Electrotype	16 — 17

Nickel

Nickel solids	132 —142
Nickel rod ends	140 —150
Nickel sheets, clips	140 —150
Nickel turnings	28 — 38

Zinc

New zinc clippings	16 — 17
Old diecast zinc	12 — 13

MATERIALS PRICES

EFFECTIVE JULY 6, 1987

(Effective July 6, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 85.00 to	$ 86.00
No. 2 hvy. melting	75.00 to	76.00
No. 1 dealer bundles	115.00 to	116.00
No. 1 factory bundles (auto)	119.00 to	120.00
No. 2 bundles	50.00 to	51.00
No. 1 busheling	111.00 to	112.00
Machine shop turnings	10.00 to	11.00
Shoveling turnings	46.00 to	47.00
Cast iron borings	43.00 to	44.00
Low phos. punchings plate	114.00 to	115.00
Heavy turnings	75.00 to	76.00
No. 1 RR hvy. melting	98.00 to	99.00
Rails, 2 ft and under	112.00 to	113.00
Scrap rails, random lgth	94.00 to	95.00
RR specialties	113.00 to	114.00
No. 1 machinery cast	84.00 to	85.00
Cupola cast	76.00 to	77.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	550.00 to	560.00
18-8 turnings	450.00 to	460.00

Chicago

No. 1 hvy. melting	$ 79.00 to	$ 80.00
No. 2 hvy. melting	75.00 to	76.00
No. 1 dealer bundles	116.00 to	117.00
No. 1 factory bundles (auto)	116.00 to	117.00
No. 2 dealer bundles	68.00 to	69.00
No. 1 busheling	109.00 to	110.00
Shredder scrap	94.00 to	95.00
Machine shop turnings	23.00 to	24.00
Mixed borings and turnings	16.00 to	17.00
Shoveling turnings	26.00 to	27.00
Cast iron borings	41.00 to	42.00
Low phos. forge crop	108.00 to	109.00
Low phos. punchings plate 1/4 in. and heavier	123.00 to	124.00
Low phos. 2 ft and under	117.00 to	118.00
No. 1 RR hvy. melting	94.00 to	95.00
Scrap rails random lgth	84.00 to	85.00
Reroller rails	101.00 to	102.00
Rails, 2 ft and under	117.00 to	118.00
RR couplers and knuckles	91.00 to	92.00
RR car axles	122.00 to	123.00
No. 1 machinery cast	103.00 to	104.00
Cupola cast	92.00 to	93.00
Stove plate	102.00 to	103.00
Steel car wheels	109.00 to	110.00
Stainless		
18-8 bundles and solids	510.00 to	520.00
18-8 turnings	380.00 to	390.00
430 bundles and solids	140.00 to	150.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 72.00 to	$ 76.00
No. 2 hvy. melting	64.00 to	67.00
No. 1 dealer bundles	100.00 to	103.00
No. 2 dealer bundles	42.00 to	45.00
No. 1 busheling	95.00 to	98.00
Shredder scrap	87.00 to	90.00
Machine shop turnings	22.00 to	25.00
Mixed borings and turnings	22.00 to	25.00
Shoveling turnings	35.00 to	38.00
Low phos. 5 ft and under	80.00 to	83.00
Low phos. 2 ft punchings	97.00 to	100.00
Electric furnace bundles	107.00 to	110.00
RR specialties	78.00 to	81.00
Rails, 2 ft and under	96.00 to	99.00
Cupola cast	80.00 to	83.00
Heavy breakable cast	52.00 to	55.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 53.00 to	$ 54.00
No. 2 hvy. melting	51.00 to	52.00
No. 1 dealer bundles	100.00 to	101.00
No. 2 bundles	38.00 to	39.00
No. 1 busheling	98.00 to	99.00
Drop forge flashings	58.00 to	59.00
Machine shop turnings	22.00 to	23.00
Mixed borings and turnings	7.00 to	8.00
Shoveling turnings	22.00 to	23.00
Cast iron borings	22.00 to	23.00
Heavy breakable cast	33.00 to	34.00
Mixed cupola cast	48.00 to	49.00
Automobile cast	72.00 to	73.00
Stainless		
18-8 bundles and solids	510.00 to	520.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 74.00 to	$ 75.00
No. 2 hvy. melting	68.00 to	69.00
No. 1 dealer bundles	98.00 to	99.00
No. 2 dealer bundles	41.00 to	42.00
Machine shop turnings	18.00 to	19.00
Shoveling turnings	18.00 to	19.00
Low phos. plate	89.00 to	90.00
Electric furnace bundles	80.00 to	81.00
Galvanized bundles	77.00 to	78.00

Cleveland

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 69.00 to	$ 70.00
No. 2 hvy. melting	63.00 to	64.00
No. 1 dealer bundles	98.00 to	99.00
No. 1 factory bundles	101.00 to	102.00
No. 2 bundles	39.00 to	40.00
No. 1 busheling	92.00 to	93.00
Machine shop turnings	22.00 to	23.00
Shoveling turnings	22.00 to	23.00
Cast iron borings	23.00 to	24.00
Cut structural & plates, 5 ft and under	82.00 to	83.00
Cut structural & plates, 2 ft and under	105.00 to	106.00
Low phos. punchings plate	105.00 to	106.00
Foundry steel, 2 ft & under	62.00 to	63.00
No. 1 RR hvy. melting	71.00 to	72.00
Rails, 2 ft and under	103.00 to	104.00
Rails, 18 in. and under	105.00 to	106.00
No. 1 machinery cast	84.00 to	85.00
Mixed cast	51.00 to	52.00
Stainless		
18-8 bundles	515.00 to	525.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 60.00 to	$ 61.00
No. 2 hvy. melting	50.00 to	51.00
No. 1 busheling	85.00 to	86.00
No. 1 dealer bundles	87.00 to	88.00
No. 2 bundles	29.00 to	30.00
Machine shop turnings	13.00 to	14.00
Mixed borings and turnings	13.00 to	14.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	27.00 to	28.00
Low phos. plate	83.00 to	84.00
Structural and plate, 2 ft and under	84.00 to	85.00
Rails, 2 ft and under	89.00 to	90.00
Scrap rails, random lgth	67.00 to	68.00
No. 1 machinery cast	77.00 to	78.00
No. 1 cupola cast	71.00 to	72.00

St. Louis

No. 1 hvy. melting	$ 76.00 to	$ 77.00
No. 2 hvy. melting	66.00 to	67.00
No. 1 busheling	93.00 to	94.00
No. 1 dealer bundles	100.00 to	101.00
No. 2 bundles	64.00 to	65.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	26.00 to	27.00
No. 1 RR hvy. melting	88.00 to	89.00
Rails, random length	83.00 to	84.00
Rails, 5 ft and under	98.00 to	99.00
RR specialties	88.00 to	89.00
Cupola cast	69.00 to	70.00
Heavy breakable cast	43.00 to	44.00
Stove plate	90.00 to	91.00
Steel car wheels	92.00 to	93.00
Rerolling rails	105.00 to	106.00
Unstripped motor blocks	60.00 to	61.00

Birmingham

No. 1 hvy. melting	$ 75.00 to	$ 76.00
No. 2 hvy. melting	68.00 to	70.00
No. 1 dealer bundles	76.00 to	77.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	76.00 to	77.00
Shredder scrap	90.00 to	91.00
Machine shop turnings	28.00 to	29.00
Shoveling turnings	37.00 to	38.00
Cast iron borings	34.00 to	35.00
Electric furnace bundles	70.00 to	71.00
Elec. furnace, 3 ft. & under	76.00 to	77.00
Structural and plate, 2 ft.	96.00 to	97.00
Structural and plate, 4 ft.	86.00 to	87.00
No. 1 RR hvy. melting	86.00 to	87.00
Scrap rails, random lgth	81.00 to	82.00
Rails, 2 ft. and under	99.00 to	100.00
Angles and splice bars	93.00 to	94.00
No. 1 cupola cast	82.00 to	83.00
Unstripped motor blocks	79.00 to	80.00

Cincinnati

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 66.00 to	$ 67.00
No. 2 hvy. melting	57.00 to	58.00
No. 1 dealer bundles	93.00 to	94.00
No. 2 bundles	35.00 to	36.00
Machine shop turnings	15.00 to	16.00
Shoveling turnings	18.00 to	19.00
Cast iron borings	27.00 to	28.00
Low phos. 18 in. and under	94.00 to	95.00
Rails, random length	81.00 to	82.00
Rails, 2 ft and under	101.00 to	102.00
No. 1 cupola cast	73.00 to	74.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	78.00 to	79.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	31.00 to	32.00
No. 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	400.00 to	420.00
18-8 turnings	315.00 to	335.00
430 prepared solids	100.00 to	110.00
430 solids	85.00 to	95.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 53.00 to	$ 55.00
No. 2 hvy. melting	43.00 to	45.00
No. 1 dealer bundles	66.00 to	68.00
No. 2 bundles	34.00 to	36.00
No. 1 busheling	65.00 to	67.00
Shredder scrap	64.00 to	66.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	75.00 to	80.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 40.00 to	$ 42.00
No. 2 hvy. melting	34.00 to	36.00
No. 1 dealer bundles	31.00 to	33.00
No. 2 dealer bundles	20.00 to	21.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	80.00 to	82.00

Los Angeles

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	32.00 to	34.00
No. 1 dealer bundles	30.00 to	32.00
No. 2 dealer bundles	16.00 to	18.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
Elec. furnace, 1 ft. and under (foundry)	67.00 to	69.00
No. 1 cupola cast	72.00 to	74.00

Seattle

No. 1 hvy. melting	$ 62.00 to	$ 64.00
No. 2 hvy. melting	53.00 to	55.00
No. 2 bundles	37.00 to	39.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 81.00
No. 2 hvy. melting, cut 2 ft and under	71.00
No. 1 dealer bundles	96.00
No. 2 bundles	58.00
Mixed steel scrap	56.00
Bush. new fact. prep'd	91.00
Bush. new fact. unprep'd	74.00
Machine shop turnings	30.00
Short steel turnings	32.00
Mixed borings and turning	19.00
Cast scrap	90.00

Houston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 69.00 to	$ 70.00
No. 2 hvy. melting	59.00 to	60.00
No. 2 bundles	37.00 to	38.00
Machine shop turnings	18.00 to	19.00
Crushed turnings	28.00 to	29.00
Shredder scrap	79.00 to	80.00
Cut structural plate, 2 ft and under	88.00 to	89.00
Cut structural plate, 5 ft and under	76.00 to	77.00
Unstripped motor blocks	52.00 to	53.00
Cupola cast	86.00 to	87.00

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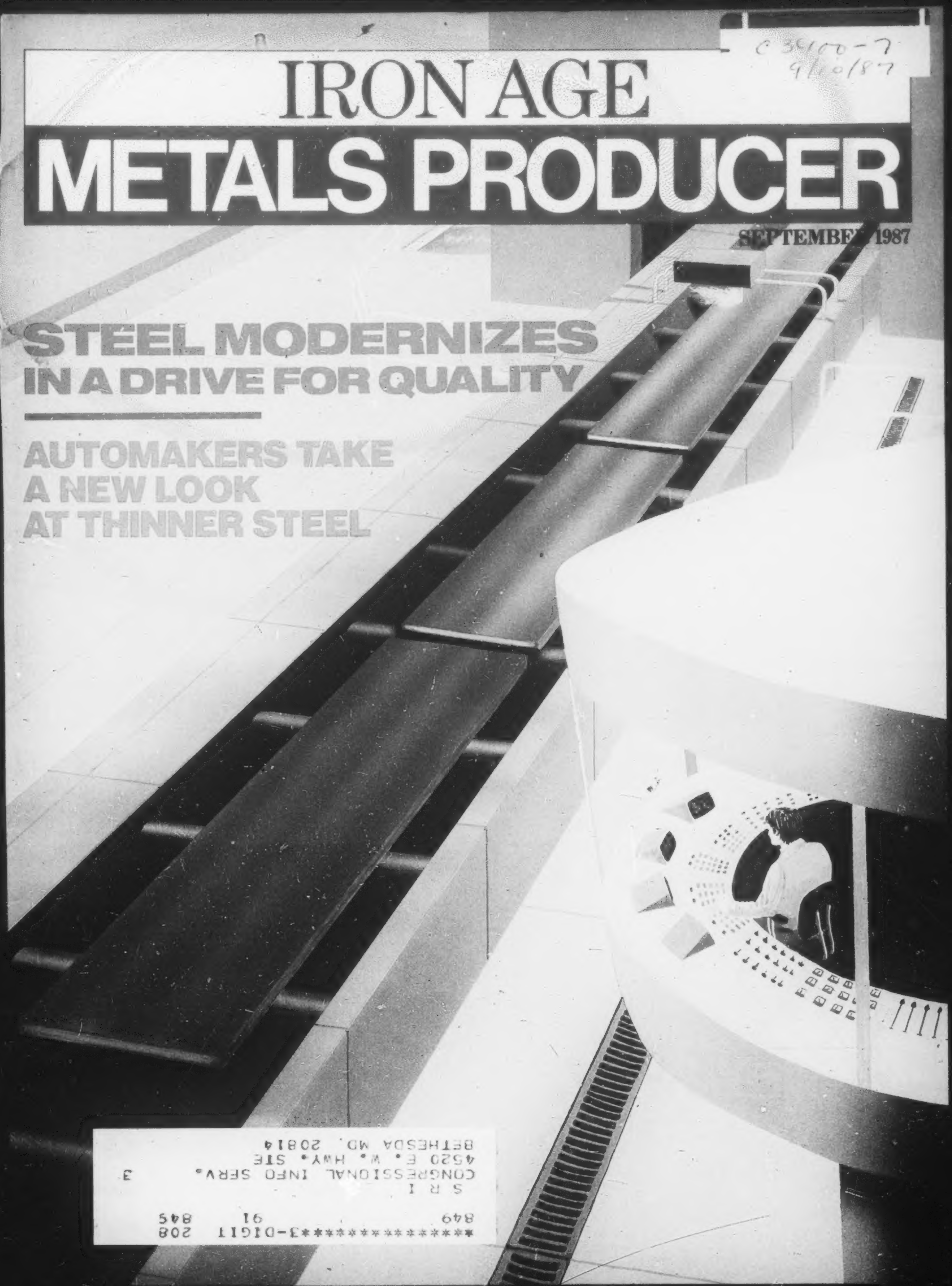
METALS PRODUCER

SEPTEMBER 1987



STEEL MODERNIZES IN A DRIVE FOR QUALITY

AUTOMAKERS TAKE A NEW LOOK AT THINNER STEEL

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IRON AGE
METALS PRODUCER

SEPTEMBER 1987, Vol 3, No. 9

CONTENTS

Sheet steel: Automakers are taking a fresh look at thinner-gauge steels.

Special Feature-P.32

Thin steel blanks stacked at Honda U.S. plant.

EDITORIAL

P.5—Are you willing to tell everything you know?

STEEL BY GEORGE

P.7—The steel industry's record isn't all that bad.

NEWSWATCH

P.8—Steel Pickup
Steel producers are starting to benefit from the weakening of the dollar.

STEEL

P.18—Steel's Upgrading
Capital spending is still low, but the steelmakers are concentrating on attaining closer tolerances. A large number of upgrading projects are underway or completed.

SHEET STEEL

P.32—Thinner Gauges
U.S. steelmakers are improving their ability to turn out high quality thin steel for the auto industry.

AISE CONVENTION

P.39—Blast Furnaces
Technical reports by steel industry engineers will cover blast furnace innovations and other developments.

ROBERTS INTERVIEW

P.41—Changing Times
The AISE president views the state of the engineering profession in an struggling steel industry.

ALUMINUM

P.44—Mini-Mills
Will mini-mills take hold in the aluminum industry the way they did in steel?

ORDER TRENDS

P.56—Expansion
Orders for capital goods for the defense industry June surged 13 percent.

MATERIALS REPORT

P.67—Steel Summary
Steel producers are boosting their estimates of 1987 shipments.

DEPARTMENTS

P.2—Editorial Staff
P.15—Industrial Briefs
P.60—Product Review
P.64—Free Literature
P.68—P&P Data
P.69—Ferrous Scrap
P.70—Clearing House
P.72—Ad Index
P.72—Business Staff
P.73—Reader Service Card

NEXT ISSUE:

What's New in Sheet Pickling Technology

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NEWSWATCH

75,000-tons-per-month rolling capacity and can produce plate up to 150 in. wide and up to 16 in. thick. A Bethlehem Steel spokesman said because of the wider range of product that the 160-inch mill can produce, Bethlehem decided to operate it rather than the newer 110-inch plate mill when the plate market declined earlier this decade.

LTV completes relining of Indiana Harbor furnace

LTV Steel Co. has completed the relining of the No. 4 blast furnace at its Indiana Harbor Works. The 4,750-tons-per-day furnace was blown in on July 27.

The renovation, which cost $114 million, consisted of replacement of internal refractories, installation of new high-temperature stoves with advanced combustion controls, and a complete rebuilding and modernization of the hot blast system. Also, improvements were made to the stockhouse along with a new charging control system that will increase efficiency of the furnace and insure consistent iron quality.

In addition, a new microprocessor-based distributed control system, interactive graphics consoles and computer interfaces were added to the furnace.

LTV Steel, which has been operating under Chapter 11 of the Federal Bankruptcy Code since July 1986, received permission from the bankruptcy court last September to spend the $114.3 million to reline the No. 4 furnace. LTV Steel attorneys argued at the time that the relining would lift operating profits at the plant by $2.1 million a month to $16 million.

Steel industry has profits in 1st half; sales expanding

The steel industry isn't quite ready to sing "Happy Days..." but the industry is closer to financial happiness than at any time in the past six years.

A combination of improved prices and increased volume has eliminated nearly all the red ink from steel returns. And there is every likelihood things will get better before they get worse.

Continued heavy buying has just about filled the books of flat rolled producers for the rest of the year. The strength of demand made it possible for mills to increase sheet prices $15 a ton July 1 and schedule a $25 increase for early October. There were also price increases for rails and plates.

While rejoicing in these developments, steel executives remained cautious about long-term prospects.

More capacity must be retired to "lock in the turnaround," said David M. Roderick, chairman of USX Corp.

Others agreed there was still too much steel capacity for the amount of steel being consumed in the U.S. Once mill production snarls have been unkinked and inventory buying has eased, said officials, the price discounting will surface again.

Steelmakers' 2nd Qtr. Earnings and Sales

(Quarter ended June 30, in millions of dollars)

	EARNINGS (LOSS)				SALES		
	E/S	2nd Q '87	2nd Q '86	Chg.	2nd Q '87	2nd Q '86	Chg.
USS	3.8%	149.00	14.00	+964%	3,954.00	4,174.00	-5.3%
Bethlehem	4.2%	46.80	(23.80)	—	1,120.00	1,100.00	+2%
Armco	5.0%	36.20	(384.00)	—	719.50	657.70	+9.4%
National	3.0%	18.40	(4.60)	—	615.70	531.00	+16%
Inland	2.1%	17.48	15.74	+11%	845.06	815.83	+3.6%
LTV	6.3%	122.70	(610.40)	—	1,933.90	1,823.10	+6.1%
Total	4.3%	390.58	(993.76)	—	9,188.16	9,010.63	+2%
Weirton	11%	35.75	10.01	+257%	322.00	277.94	+16%
Wheeling Pgh.	15%	39.32	(60.28)	—	258.79	245.34	+5.5%
Allegheny Ludlum	6.5%	14.20	—	—	217.35%	—	—
Nucor	6.6%	13.94	12.47	+12%	209.46	197.09	+6.3%
Lukens	4.8%	6.12	6.81	-10%	127.55	105.93	+20%
Carpenter	1.7%	2.20	4.50	-51%	127.20	136.30	-7%
NS&W*	4.4%	4.96	2.60	+91%	111.88	100.08	+12%
Florida	4.9%	5.11	5.73	-11%	104.27	91.27	+14%
Quanex*	—	(1.31)	(4.96)	—	85.90	87.82	-2.2%
Acme	5.6%	4.74	.95	+399%	85.27	56.82	+50%
Laclede	1.9%	1.25	1.08	+16%	67.25	60.37	+11%
CF&I	—	(1.47)	(4.80)	—	59.85	55.57	+8%
CSC	1.3%	.62	(2.92)	—	47.00	38.18	+23%
New Jersey	14%	4.42	3.38	+31%	31.49	33.07	-4.8%
Eastmet	2.4%	.72	(1.13)	—	30.06	32.58	-8%

*Quarter ended April 30.

DEFENSE ORDERS FUEL JUNE SURGE

Orders for defense capital goods in June surged 13 percent to $10.6 billion, fueling an increase of new orders in the capital goods industry for the month. The total was substantially above year-ago levels of both defense and nondefense orders.

Nondefense capital goods orders declined to $29.6 billion in June from $30 billion a month earlier. But the nondefense orders were well above the $25.9 billion of June 1986.

New orders for primary metals increased $400 million in the month, with the total reaching $9.9 billion, a 3.9 pct increase. Fabricated metal product orders rose to $11.6 billion in June from $11 billion a month earlier and $10.4 billion a year earlier.

New orders for steel in June rose to $4.5 billion from $4.2 billion in May as the industry continued to feel a rising demand. New orders for steel in June '86 were $8.4 billion.

Nonferrous metals new orders also are on an upward swing, with June's orders of $4.6 billion ahead of May's $4.4 billion and June '86's level of $4.2 billion.

About three-quarters of the increase in orders for manufactured durable goods was accounted for by electrical machinery, which increased $1.3 billion, or 7.3 pct. Most of the electrical machinery rise was in nondefense communication equipment.

Major declines were registered in new orders for transportation equipment and nonelectrical machinery. Transportation equipment orders declined $600 million, or 1.9 pct, and aircraft and parts were down $600 million, or 3.2 pct. Nonelectrical machinery also decreased $600 million, or 3.2 pct.

Shipments of durable goods rose to $104.5 billion in June.

Billions of dollars, seasonally adjusted monthly total, unless otherwise noted. Source: Commerce Department		Latest Month or Qtr.	Prev. Month or Qtr.	Same Period Year Ago
CAPITAL EXPENDITURES Annual Rates)				
U.S. Industry, Total	3rd Q.*	$397.1	$392.0	$374.6
Manufacturing, Total	3rd Q.*	148.5	146.9	139.2
Manufacturing, Durable Goods	3rd Q.*	71.8	73.1	69.3
Mining Industry	3rd Q.*	10.6	10.9	10.2
KEY INDICATORS				
Durable Goods Manufacturing				
New Orders	June	108.7	107.0	97.9
Shipments	June	104.5	102.5	99.6
Inventories	June	208.2	209.1	211.1
Unfilled Orders	June	371.7	367.5	363.0
NEW ORDERS, METALWORKING				
Capital Goods Producers, Nondefense Industries	June	29.6	30.0	25.9
Capital Goods Producers Defense Industries	June	10.6	9.4	8.3
Primary Metals, Total	June	9.9	9.5	8.4
Steel (SIC 331)	June	4.5	4.2	3.6
Iron & Steel Castings (SIC 332)	June	0.7	0.9	0.9
Nonferrous Metals	June	4.6	4.4	4.2
Nonelectrical Mach.-Equip. Industries, Total	June	17.0	17.6	16.5
Engines & Turbines	June	0.8	1.4	1.0
Construction, Mining & Mat. Hdlg. Equip.	June	2.1	2.0	1.9
Metalworking Machinery	June	0.7	0.7	0.6
Machine Tools, Total‡ ($Mill.)	June	205.8	188.1	201.2
Machine Tools, Metal Cutting‡	June	115.3	144.8	156.8
Machine Tools, Metal Forming‡	June	90.5	43.3	44.4
Electrical Mach. & Equip. Industries, Total	June	19.7	18.4	18.1
Elec. Transmission & Ind. Equip.	June	2.3	2.2	2.0
Household Appliances	June	1.6	1.5	1.4
Communication Equipment	June	7.1	5.7	7.0
Transportation Equip. Total	June	29.0	29.6	23.8
Motor Vehicles & Parts (Shipments)	March	17.5	18.2	15.1
Aircraft, Missiles & Parts	June	9.7	10.3	6.3
Shipbuilding & Military Tanks	June	1.9	1.7	0.9
Fabricated Metal Products, Total	June	11.6	11.0	10.4
Instruments, Total	June	3.6	3.4	3.4

*Est.-Commerce Dept.; † Source: National Fluid Power Assn.; ‡ Source: NMTBA

Steel composite price to be revised

The Finished Steel Base Price in the composite prices section of the Materials Prices table on this page will be revised over the next three months due to a lack of necessary information. The revision will require a revamping of the basic pricing formula.

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.45-86.9***
Mesabi, regular-unscreened	gross-ton 32.53
Mesabi, non-bessemer	gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper Lake ports. ***72.45¢—Cleveland Cliffs as of 12/30/86. 72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82, Hanna Mining 2/26/82.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective August 3, 1987)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,669	1,753	49,720	51,279
Capability Utilization Rate	78.0	81.7	76.0	68.1

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 8/2/87)	24.804	25.236	25.236	24.850
Pig Iron** (Net ton= 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 82.83	$ 79.83	$ 79.50	$ 74.83
No. 2 bundles	$ 53.50	$ 54.17	$ 54.17	$ 53.83

Scrap Comparison (Gross Ton)				
No. 1 steel, Pittsburgh	$ 89.50	$ 85.50	$ 85.50	$ 75.50
No. 1 steel, Philadelphia	74.50	74.50	73.50	73.50
No. 1 steel, Chicago	84.50	79.50	79.50	75.50
No. 1 bundles, Detroit	95.50	100.50	100.50	69.50
Low Phos., Youngstown	92.50	89.50	89.50	74.50
No. 1 mach'y cast., Pgh	87.50	84.50	84.50	74.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	103.50	103.50	103.50	105.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.

**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.

***Steel Scrap Composite: Average of No. 1 heavy melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective August 3, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	7[illegible]30	70.60	8/3/87
Copper (C)	85.00	82.00	7/29/87
Lead	42.00	38.00	7/6/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	231.00	222.00	8/3/87
Zinc	48.00	45.00	6/10/87

ALUMINUM: Avg. for last week & previous week. COPPER (C)—cathode. LEAD: common grade. MAGNESIUM: 99.8% pig delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$152.00
Beryllium 97% powder 200	$196.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz	$472.75
Indium, per troy oz	$9.95
Indium, per troy oz	$360.00
Magnesium sticks, 10,000 lbs	$2.12
Mercury, per 76-lb., f.o.b. N.Y.	$348.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.45
Palladium, per troy oz	$148.00
Platinum, per troy oz	$630.00
Rhodium, per troy oz	$1,305.00
Silver ingots, per troy oz	$8.64
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red.	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.20-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

July 27—286.00
July 28—286.00
July 29—287.00
July 30—289.00
July 31—290.00

Scrap Prices
Brass Mill Scrap

(Cents per lb., over 20,000 lbs. add 1¢ per lb.)

	Solids	Turnings
Copper	58	53
Yellow brass	51½	50½
Red brass	52½	48½
Comm. bronze	54	49
Mang. bronze	41	40
Free cutting rod ends	50½	49½

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	58
No. 2 copper wire	49
Light copper	43

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	52
No. 2 copper wire	44
Light copper	37
No. 1 composition	45
No. 1 comp. turnings	45
Hvy. yellow brass solids	33
Hvy. yellow brass turnings	27
Radiators	31

Aluminum	
New mixed clips	46 — 47
Old sheet	40 — 41
Old cast	40 — 41
Clean dry borings	41 — 42

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum	
Segregated clippings	41 — 42
Mixed L.C. clips	40 — 41
Old sheets and cast	34 — 35
Borings and turnings	29 — 30
Duraluminum clippings	34 — 35
Copper and Brass	
No. 1 copper wire	48 — 51
No. 2 copper wire	39 — 40
Light copper	36 — 37
Radiators	26 — 27
No. 1 composition	40 — 41
No. 1 composition turnings	38 — 39
Cocks and faucets	34 — 35
Clean heavy yellow brass	30 — 32
Brass pipe	33 — 35
New soft brass clippings	44 — 45
Lead	
Heavy soft lead	16 — 17
Whole batteries	2 — 3
Type metal	25 — 26
Electrotype	18 — 19
Nickel	
Nickel solids	135 —145
Nickel rod ends	143 —153
Nickel sheets, clips	143 —153
Nickel turnings	31 — 41
Zinc	
New zinc clippings	16 — 17
Old diecast zinc	12 — 13

EFFECTIVE AUGUST 3, 1987

(Effective August 3, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 89.00 to	$ 90.00
No. 2 hvy. melting	79.00 to	80.00
No. 1 dealer bundles	119.00 to	120.00
No. 1 factory bundles (auto)	121.00 to	122.00
No. 2 bundles	50.00 to	51.00
No. 1 busheling	114.00 to	115.00
Machine shop turnings	10.00 to	11.00
Shoveling turnings	46.00 to	47.00
Cast iron borings	43.00 to	44.00
Low phos. punchings plate	120.00 to	121.00
Heavy turnings	79.00 to	80.00
No. 1 RR hvy. melting	101.00 to	102.00
Rails, 2 ft and under	117.00 to	118.00
Scrap rails, random lgth	95.00 to	96.00
RR specialties	116.00 to	117.00
No. 1 machinery cast	87.00 to	88.00
Cupola cast	79.00 to	80.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	565.00 to	575.00
18-8 turnings	465.00 to	475.00

Chicago

No. 1 hvy. melting	$ 84.00 to	$ 85.00
No. 2 hvy. melting	80.00 to	81.00
No. 1 dealer bundles	117.00 to	118.00
No. 1 factory bundles (auto)	120.00 to	121.00
No. 2 dealer bundles	66.00 to	67.00
No. 1 busheling	109.00 to	110.00
Shredder scrap	94.00 to	95.00
Machine shop turnings	23.00 to	24.00
Mixed borings and turnings	16.00 to	17.00
Shoveling turnings	26.00 to	27.00
Cast iron borings	41.00 to	42.00
Low phos. forge crop	108.00 to	109.00
Low phos. punchings plate 1/4 in. and heavier	123.00 to	124.00
Low phos. 2 ft and under	117.00 to	118.00
No. 1 RR hvy. melting	94.00 to	95.00
Scrap rails random lgth	91.00 to	92.00
Reroller rails	101.00 to	102.00
Rails, 2 ft and under	117.00 to	118.00
RR couplers and knuckles	91.00 to	92.00
RR car axles	122.00 to	123.00
No. 1 machinery cast	103.00 to	104.00
Cupola cast	92.00 to	93.00
Stove plate	102.00 to	103.00
Steel car wheels	118.00 to	119.00
Stainless		
18-8 bundles and solids	525.00 to	535.00
18-8 turnings	390.00 to	400.00
430 bundles and solids	140.00 to	150.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 73.00 to	$ 76.00
No. 2 hvy. melting	65.00 to	68.00
No. 1 dealer bundles	103.00 to	106.00
No. 2 dealer bundles	42.00 to	45.00
No. 1 busheling	98.00 to	101.00
Shredder scrap	90.00 to	93.00
Machine shop turnings	22.00 to	25.00
Mixed borings and turnings	22.00 to	25.00
Shoveling turnings	37.00 to	40.00
Low phos. 5 ft and under	80.00 to	83.00
Low phos. 2 ft punchings	97.00 to	100.00
Electric furnace bundles	110.00 to	113.00
RR specialties	78.00 to	81.00
Rails, 2 ft and under	96.00 to	99.00
Cupola cast	80.00 to	83.00
Heavy breakable cast	52.00 to	55.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 53.00 to	$ 54.00
No. 2 hvy. melting	51.00 to	52.00
No. 1 dealer bundles	95.00 to	96.00
No. 2 bundles	38.00 to	39.00
No. 1 busheling	93.00 to	94.00
Drop forge flashings	53.00 to	54.00
Machine shop turnings	24.00 to	25.00
Mixed borings and turnings	7.00 to	8.00
Shoveling turnings	24.00 to	25.00
Cast iron borings	23.00 to	24.00
Heavy breakable cast	33.00 to	34.00
Mixed cupola cast	48.00 to	49.00
Automobile cast	72.00 to	73.00
Stainless		
18-8 bundles and solids	525.00 to	535.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 76.00 to	$ 77.00
No. 2 hvy. melting	70.00 to	71.00
No. 1 dealer bundles	101.00 to	102.00
No. 2 dealer bundles	43.00 to	44.00
Machine shop turnings	19.00 to	20.00
Shoveling turnings	19.00 to	20.00
Low phos. plate	92.00 to	93.00
Electric furnace bundles	83.00 to	84.00
Galvanized bundles	80.00 to	81.00

Cleveland

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 71.00 to	$ 72.00
No. 2 hvy. melting	63.00 to	64.00
No. 1 dealer bundles	101.00 to	102.00
No. 1 factory bundles	105.00 to	106.00
No. 2 bundles	39.00 to	40.00
No. 1 busheling	95.00 to	96.00
Machine shop turnings	24.00 to	25.00
Shoveling turnings	25.00 to	26.00
Cast iron borings	25.00 to	26.00
Cut structural & plates 5 ft and under	82.00 to	83.00
Cut structural & plates, 2 ft and under	105.00 to	106.00
Low phos. punchings plate	108.00 to	109.00
Foundry steel, 2 ft & under	62.00 to	63.00
No. 1 RR hvy. melting	71.00 to	72.00
Rails, 2 ft and under	103.00 to	104.00
Rails, 18 in. and under	105.00 to	106.00
No. 1 machinery cast	84.00 to	85.00
Mixed cast	51.00 to	52.00
Stainless		
18-8 bundles	530.00 to	540.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 65.00 to	$ 66.00
No. 2 hvy. melting	55.00 to	56.00
No. 1 busheling	93.00 to	94.00
No. 1 dealer bundles	94.00 to	95.00
No. 2 bundles	31.00 to	32.00
Machine shop turnings	13.00 to	14.00
Mixed borings and turnings	13.00 to	14.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	27.00 to	28.00
Low phos. plate	85.00 to	86.00
Structural and plate, 2 ft and under	90.00 to	91.00
Rails, 2 ft and under	93.00 to	94.00
Scrap rails, random lgth	69.00 to	70.00
No. 1 machinery cast	78.00 to	79.00
No. 1 cupola cast	71.00 to	72.00

St. Louis

No. 1 hvy. melting	$ 79.00 to	$ 80.00
No. 2 hvy. melting	69.00 to	70.00
No. 1 busheling	96.00 to	97.00
No. 1 dealer bundles	100.00 to	101.00
No. 2 bundles	67.00 to	68.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	26.00 to	27.00
No. 1 RR hvy. melting	88.00 to	89.00
Rails, random length	83.00 to	84.00
Rails, 5 ft and under	98.00 to	99.00
RR specialties	88.00 to	89.00
Cupola cast	69.00 to	70.00
Heavy breakable cast	43.00 to	44.00
Stove plate	90.00 to	91.00
Steel car wheels	92.00 to	93.00
Rerolling rails	105.00 to	106.00
Unstripped motor blocks	60.00 to	61.00

Birmingham

No. 1 hvy. melting	$ 78.00 to	$ 79.00
No. 2 hvy. melting	71.00 to	72.00
No. 1 dealer bundles	79.00 to	80.00
No. 2 bundles	52.00 to	53.00
No. 1 busheling	79.00 to	80.00
Shredder scrap	100.00 to	101.00
Machine shop turnings	31.00 to	32.00
Shoveling turnings	40.00 to	41.00
Cast iron borings	37.00 to	38.00
Electric furnace bundles	72.00 to	73.00
Elec. furnace, 3 ft & under	79.00 to	80.00
Structural and plate, 2 ft	96.00 to	97.00
Structural and plate, 4 ft	88.00 to	89.00
No. 1 RR hvy. melting	88.00 to	89.00
Scrap rails, random lgth	88.00 to	89.00
Rails, 2 ft and under	104.00 to	105.00
Angles and splice bars	93.00 to	94.00
No. 1 cupola cast	85.00 to	86.00
Unstripped motor blocks	82.00 to	83.00

Cincinnati

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 69.00 to	$ 70.00
No. 2 hvy. melting	59.00 to	60.00
No. 1 dealer bundles	96.00 to	97.00
No. 2 bundles	37.00 to	38.00
Machine shop turnings	15.00 to	16.00
Shoveling turnings	18.00 to	19.00
Cast iron borings	27.00 to	28.00
Low phos. 18 in. and under	97.00 to	98.00
Rails, random length	84.00 to	85.00
Rails, 2 ft and under	104.00 to	105.00
No. 1 cupola cast	75.00 to	76.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	78.00 to	79.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	31.00 to	32.00
No. 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast. chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	400.00 to	420.00
18-8 turnings	315.00 to	335.00
430 prepared solids	100.00 to	110.00
430 solids	85.00 to	95.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 53.00 to	$ 55.00
No. 2 hvy. melting	43.00 to	45.00
No. 1 dealer bundles	66.00 to	68.00
No. 2 bundles	34.00 to	36.00
No. 1 busheling	65.00 to	67.00
Shredder scrap	64.00 to	66.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	75.00 to	80.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 44.00 to	$ 46.00
No. 2 hvy. melting	38.00 to	40.00
No. 1 dealer bundles	35.00 to	37.00
No. 2 dealer bundles	24.00 to	25.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	82.00 to	84.00

Los Angeles

No. 1 hvy. melting	$ 42.00 to	$ 44.00
No. 2 hvy. melting	36.00 to	38.00
No. 1 dealer bundles	34.00 to	36.00
No. 2 dealer bundles	20.00 to	22.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
Elec. furnace 1 ft and under (foundry)	70.00 to	72.00
No. 1 cupola cast	74.00 to	76.00

Seattle

No. 1 hvy. melting	$ 62.00 to	$ 64.00
No. 2 hvy. melting	53.00 to	55.00
No. 2 bundles	37.00 to	39.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 81.00
No. 2 hvy. melting, cut 2 ft and under	71.00
No. 1 dealer bundles	96.00
No. 2 bundles	58.00
Mixed steel scrap	56.00
Bush. new fact. prep'd	91.00
Bush. new fact. unprep'd	74.00
Machine shop turnings	30.00
Short steel turnings	32.00
Mixed borings and turning	19.00
Cast scrap	90.00

Houston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 80.00 to	$ 81.00
No. 2 hvy. melting	70.00 to	71.00
No. 2 bundles	43.00 to	44.00
Machine shop turnings	28.00 to	29.00
Crushed turnings	38.00 to	39.00
Shredder scrap	85.00 to	86.00
Cut structural plate, 2 ft and under	95.00 to	96.00
Cut structural plate, 5 ft and under	85.00 to	88.00
Unstripped motor blocks	57.00 to	58.00
Cupola cast	90.00 to	91.00

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JOHN McCONNELL
A NEW STEEL MILL FOR WORTHINGTON?

HIGHER PRODUCTIVITY ON THE PICKLING LINE

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CONTENTS

OCTOBER 1987, Vol. 3, No. 10

Worthington Industries is considering building a new type of steel sheet mill.

Special Feature-P.16

John McConnell: A go-ahead decision depends on technology gains.

EDITORIAL

P.5—1995: Match your wits with those at the top.

STEEL BY GEORGE

P.7—The steel industry can leapfrog the world.

NEWSWATCH

P.9—Steel Shipments
Steel shipments may reach 72 million tons this year, up from previous estimates.

WORTHINGTON

P.16—New Steel Plant?
The quality of the finished product is the guiding influence on Worthington Industries as it considers entering steelmaking. The mill would be of moderate size—at about 1 million tons a year.

PICKLING

P.22—Fresh Efforts
Sheet steel mills are paying more attention to their pickling lines in their efforts to improve production efficiency.

MAGNESIUM

P.28—Higher Output
Dow Chemical has been spending $10 to $15 million a year on production improvements to keep its lead in magnesium sales.

PLASTICS

P.30—Materials Design
New design configurations provide crashworthiness to auto components made of plastic or lightweight metals.

FERROUS SCRAP

P.33—Heat Wave
The warming trend in the ferrous scrap market turned up sharply in September as steelmakers bid prices up.

MATERIALS REPORT

P.35—Capacity
Estimates put the U.S. steel industry's capacity at 112 million tons, down 50 million tons from 10 years ago.

DEPARTMENTS

P.2—Editorial Staff
P.34—Industrial Briefs
P.36—P&P Data
P.37—Ferrous Scrap
P.38—Clearing House
P.40—Ad Index
P.40—Business Staff
P.41—Reader Service Card

NEXT ISSUE:

Electric Furnaces: The Verdict on Direct Current

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LETTERS

Electroslag Remelt

With reference to your article on electroslag casting (May issue), I would add to your historical statements that ESR (electroslag remelting), as we know it today in the Western World, was pioneered in the '60s largely by the ESRT team at the British Iron and Steel Research Assn. in Sheffield and also by Dr. Alex Mitchell at the University of Sheffield. He moved subsequently to U.B.C. and headed what is now the recognized center of technology for ESR.

The ESRT group, in conjunction with Consarc Corp., brought much of the ESR technology to this country.

P. Dewsnap
236 Springbrook Trail
Sparta, N.J. 07871

MBAs in Charge

Your July editorial may draw a lot of criticism, but thank God someone had the guts to identify one of the many real problems of the basic steel industry.

In 35 years with a major producer I witnessed the takeover dynasties of MBAs. Their lack of knowledge of manufacturing and the technical aspects of steel as an engineering material forced the abandonment of major portions of the market (alloy and stainless) with the concurrent elimination of R&D and technically competent manufacturing and sales support personnel.

Only two major producers mainained the professional staff necessary to maintain a product line other than "plain vanilla," as Bill Roesch aptly put it.

When I heard the MBAs' open proclamation that successful management of a steel company does not require detailed knowledge of the business, I knew the end was in sight.

Elgin Van Meter
Manager, Quality Assurance
Valley City Steel
Valley City, Ohio

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erage 12 heats a day and, for BOP production, to average 26 to 28 heats a day. The BOP vessels are rated at 225 tons.

With that operating rate, Mr. Fravel said, the caster will exceed its design capacity.

Steel not continuously cast at Lorain is made into bottom-poured ingots, he said.

In addition to raising steel temperatures to optimal casting levels, the ladle furnace also has a system for the addition of alloys. It will allow the BOP to be tapped at temperatures 125 degrees lower than at present, a development which should lengthen BOP vessel life, officials said.

Mr. Fravel said the Lorain Works has been operating two blast furnaces since June, a hot-metal production level that had not been projected to be reached this year.

Lorain is producing 48,000 tons of billet monthly for the Fairfield seamless pipe mill, Mr. Fravel said. Also, 30,000 tons of semi-finished steel is consumed by the plant's tubular operations and 45,000 tons a month by the plant's two bar mills.

Ferrous scrap exports are on an upward course

Ferrous scrap exports totaled 5.1 million short tons in the first half, 18.8 percent behind last year's exports. However, a surge in June shipments made it likely that exports in the next six months will match the second half of 1986. Scrap exports set a record in 1986.

Exports in June totaled 1.26 million tons, 97 percent more than the previous month and 40 percent more than June 1986.

Lower freight rates and increased demand by foreign consumers were two major reasons given by scrap traders for the June surge.

The monthly average in the last six months of 1986 was 898,000 tons, an average most traders felt will be equaled or surpassed in the second half of this year. They pointed to continued strong demand from South Korea, Turkey and India and the expectation that shipments to Japan, traditionally the largest consumer of United States scrap, will increase.

US Exports of Ferrous Scrap

(Short tons, reroll excluded)

				Year to Date		
Country	**June '87**	**May '87**	**Apr. '87**	**1987**	**1986**	**Pct. Chg.**
Canada	27,749	34,763	37,758	173,266	142,288	+21.8
Greece	0	0	0	22,191	121,741	−81.8
India	131,021	60,426	75,658	487,182	680,348	−28.4
Italy	8,612	357	57,656	100,637	163,384	−38.4
Japan	127,311	86,136	33,760	303,634	1,284,163	−76.4
S. Korea	354,687	117,855	118,784	1,237,611	1,627,689	−23.9
Mexico	51,137	30,873	15,429	147,762	247,556	−40.3
Spain	71,871	16,518	37,364	213,014	313,555	−32.1
Taiwan	16,030	45,039	47,241	230,131	281,489	−18.2
Turkey	258,335	101,370	323,877	1,170,704	600,210	+95.0
Venezuela	25,702	32,982	0	150,190	272,014	−44.8
Others	185,700	111,772	151,990	895,962	582,509	+53.8
Totals	**1,258,155**	**638,091**	**899,517**	**5,132,284**	**6,316,946**	**−18.8**

Source: Compiled by American Metal Market from data released by the Commerce Dept.

Steel restructuring costs put at $30B over next 5 years

The United States steel industry is facing restructuring and modernization costs over the next five years of $30 billion to $35 billion, according to a new steel report from Wharton Econometrics, Bala Cynwyd, Pa.

Of these costs, only $10 billion is for plant modernization, with the rest employee related, according to John Jacobson, director of basic industries for Wharton Econometrics.

The other components of the restructuring tab include $4 billion to $5 billion for pension plan restructuring, $11 billion to $15 billion for restructuring health care plans and $3 billion for direct plant closure expenses such as supplemental employee payments, penalty payments to suppliers and asset write-offs, Jacobson said in the report.

The potential expenditure of more than $30 billion, Mr. Jacobson said, "is far more than the U.S. steel industry can afford."

"We believe direct steel plant closure costs will average $75,000 per terminated employee over the next five years," said Christopher Plummer, manager of steel market analysis for Wharton Econometrics.

He identified 14 steel plants in the nation that face the "greatest threat of large-scale restructuring up to and including full-scale closure."

Those plants are Bethlehem Steel Corp.'s Bethlehem, Pa., and Johnstown, Pa., plants; Gulf States Steel Inc.'s Gadsden, Ala., plant; Lone Star Technologies Inc.'s Lone Star, Texas, plant; LTV Steel Co.'s Warren and Canton, Ohio, and South Chicago, Ill., plants; McLouth Steel Products Corp.'s Trenton, Mich., plant; Rouge Steel Co. in Dearborn, Mich.; Sharon Steel Corp. in Farrell, Pa.; and USS's plants in Fairless Hills, Pa., Loraine, Ohio, the Mon Valley Works near Pittsburgh and the South Chicago plant.

DOW POURS IT ON TO KEEP ITS LEAD

Dow Chemical's rivalry with Norsk Hydro in magnesium will heat up when Norsk expands its Quebec operation. Both view the auto business as a juicy potential market.

Production efficiencies are important when you're the world's largest producer of magnesium, but they're even more important when you've got an expanding rival breathing down your neck and a lot of rival materials to contend with.

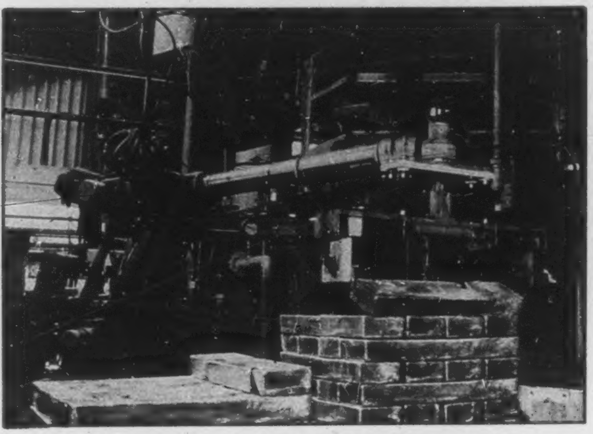
That's why Dow Chemical Co. has been spending $10 to $15 million a year on its magnesium operations in Freeport, Tex., for the past five years and why it plans to continue capital spending at a high level in the years ahead. Norway's Norsk Hydro A/S, Europe's biggest magnesium producer, is readying an ambitious capacity expansion projection in Quebec, right in the backyard of a Detroit that Dow and other magnesium producers have been trying to sell for decades. Aluminum, particularly secondary aluminum, continues to press hard for more automotive business, as do a host of other metals and materials—all of which magnesium has to nudge aside to establish a toe-hold.

When Dow went to Freeport in the early 1940s to make magnesium for the war effort, there were two strong attractions: cheap energy and an unlimited supply of raw material. Seawater was there for the taking and natural gas was a stepchild of oil production that often was flared off just to get rid of it.

That all changed with the coming of the gas pipe lines (which made natural gas a price-commanding commodity), the post-OPEC oil crises and consequent inflation.

The seawater is still there for the taking but, like its cousins in the aluminum end of the light metals business, Dow still had to get cost-competitive.

Dow Magnesium is the only producer using hydrous magnesium chloride as feed for the electrolytic cells. The magnesium ion is present in seawater at a level of about 1,200 to 1,300 parts per million. Putting it another way, Dow must process about 140 gallons of seawater to make one pound of magnesium.



Magnesium at Dow Chemical. Cell capacity has been expanded by 25 pct since 1980.

The magnesium is precipitated as magnesium hydroxide by addition of dolime or caustic in large articulated flocculators, after which it is settled in Dorr thickeners.

The spent overflow enters the plant wastewater stream, where it is neutralized and returned to the ocean, while the thickened underflow is pumped to rotary filters for dewatering, washing and reslurrying with wash water from the magnesium chloride purification step.

Next comes pumping to neutralizers for treatment with hydrochloric acid and enough sulfuric acid to precipitate excess calcium as calcium sulfate. By using the sensible heat of the exhaust gases from the acid furnaces and the heats of reaction of the magnesium hydroxide with the acid stream, 35 percent magnesium chloride brine is produced without auxiliary evaporation.

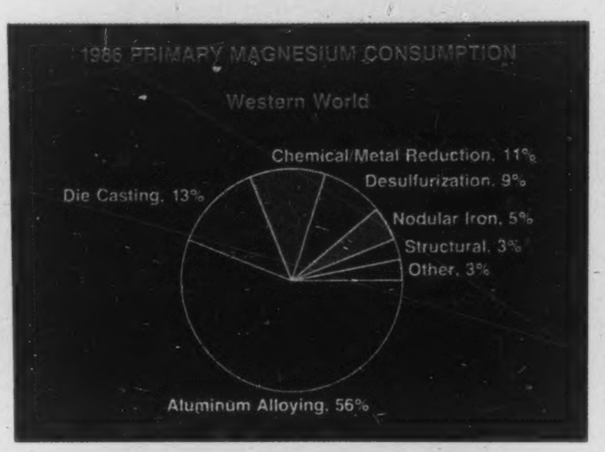
The brine is filtered to remove calcium sulfate and other solids and further purified to reduce sulfate and boron and forwarded to the dryer. The purified brine is dried by direct contact with combustion gases in a fluid bed dryer to produce 8-20 mesh granules of 73 percent $MgCl_2$. Next stop is the electrolytic cells.

The cells are fed semi-continuously and produce both magnesium and chlorine. The dilute, wet chlorine gas is drawn into refractory furnaces and converted into HCl, which is recycled to neutralize magnesium hydroxide. Chloride losses are replaced with chlorine, HCl or magnesium chloride. Dow also has a process patent for liquefying the dilute gaseous chlorine.

Metal is pumped from the cells, which undergo continual improvement and operate at 175,000 amps, by a tractor-mounted pump twice per shift and the cells are sludged daily. The molten magnesium, 99.8 or 99.9 percent pure, is pumped from the cell through a spout in the floor to a crucible below for rail transport to the casting building, which has two 35,000-pound holding furnaces serving four conveyor lines to the casting stations.

Dow Magnesium currently is modernizing the casting operation by adding automatic pouring and skimming, electronic inspection and robotic metal stacking.

According to Frank Leever, unit manager of Magnesium Operations Services at Freeport, magnesium cell capacity has gone up 25 percent since 1980 "and this means less cells required to make the same pounds...and less people." Mr. Leever said cell resistance has been reduced, the anodes per cell have been increased and the overall engineering of the cell itself has been upgraded for more efficiency and longer service life.



One measure of cell performance is called current efficiency. This is the amount of power consumed by the cell compared to the theoretical power. "Our current efficiency has been improving steadily since the 1940s...and has shown a 5 percent improvement since 1980. We see improvements here also in the future, since our plants have shown the capability to run in the high 80 percent range," Mr. Leever said.

According to Clifford B. Wilson, technical manager, magnesium operations, Freeport's ability to handle cell loads over 175,000 amps was achieved with a decrease in kilowatt hours per pound of magnesium.

Mr. Wilson said Dow Magnesium reduced the energy requirement of magnesium produced to 56,000 Btus per pound in 1986 from over 95,000 Btus per pound in 1975. The total energy calculation considers all energy inputs, whether from raw materials such as dolime, acid or graphite, all utility inputs, such as process water or air, and total fuel and electrical power, the latter being determined on the theoretical value of 3,413 Btus per kilowatt hour.

Another reason for honing cost efficiencies at Freeport is the substantial amount of capacity increases in various stages of planning by some of Dow Magnesium's competitors. As Dow sees it, current free world demand for magnesium runs a bit short of capacity in place and anticipated increases in consumption will fall far short of capacity projections based on the expansion projects. This, of course, means stiffer competition.

Dow Magnesium said it sees "continued slow growth (for magnesium) into the 1990s and contended that there already is capacity to spare both in the industry and in the Dow system.

According to C. W. Nelson, commercial manager for Dow's primary magnesium business, magnesium consumption should grow at a rate of less than 1 percent a year "due to near-flat or negative growth in markets such as aluminum alloying, chemical and metal reduction applications." The potential for automotive and steel desulfurization applications is promising, he said, adding that these still have a long way to go to overtake the aluminum alloying market, which last year accounted for 56 percent of western world magnesium consumption.

Dow Magnesium estimates free world magnesium capacity at 237,000 metric tons and consumption this year at 228,000 tons.

On the basis of the company's projection of a 0.7 percent annual growth rate, by 1989, when Norsk Hydro expects to have its 60,000-tons-a-year magnesium smelter at Becancour, Quebec, operating, consumption will be only 3,200 tons higher than the 1987 estimate. Norsk Hydro, meanwhile, backed its decision to go ahead with the Becancour project with a prediction that consumption will grow fast enough "to absorb a considerable amount of output from the Canadian plant."

However, the Norwegian magnesium and aluminum producer also said it intends "to phase in this production gradually, in pace with market development, (and) capacity can easily be increased as the market expands."

Dow Magnesium officials resist speculating on what planned capacity additions will go forward in the years ahead, but when asked recently what capacity changes the company was factoring into its longer-term planning, Mr. Nelson's reply was terse: "an increase of 30,000 tons—net."

With Norsk Hydro apparently determined to go ahead with its 60,000-tons-a-year project, it is quite plain that Dow expects to see some existing capacity come down.

The logical candidate is Amax Inc.'s Rowley smelter on Utah's Great Salt Lake that has had more than its share of troubles over the past few years, including a costly breaching of the dikes surrounding the evaporation ponds in June 1986.

Dow Magnesium has revised its magnesium capacity downward to 86,000 metric tons a year from 118,000 tons previously, but calls it "flexible capacity" because further efficiency improvements will permit incremental increases.

By Bob Regan

MATERIALS PRICES

Steel composite price to be revised

The Finished Steel Base Price in the composite prices section of the Materials Prices table on this page will be revised by Nov. 1 due to a lack of necessary information. The revision will require a revamping of the basic pricing formula.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective September 8, 1987)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,736	1,673	58,130	57,577
Capability Utilization Rate	81.2	78.2	76.3	65.8

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 8/2/87)	24.804	24.804	24.804	24.951
Pig Iron** (Net ton= 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 92.83	$ 88.17	$ 83.50	$ 74.50
No. 2 bundles	$ 58.83	$ 56.17	$ 53.50	$ 52.17
Scrap Comparison (Gross Ton)				
No. 1 steel, Pittsburgh	$ 96.50	$ 95.50	$ 89.50	$ 76.50
No. 1 steel, Philadelphia	84.50	84.50	76.50	73.50
No. 1 steel, Chicago	97.50	84.50	84.50	73.50
No. 1 bundles, Detroit	105.50	105.50	95.50	72.50
Low Phos., Youngstown	100.50	100.50	92.50	74.50
No. 1 mach'y cast., Pgh	92.50	92.50	87.50	74.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	108.50	103.50	103.50	103.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.

**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.

***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.45-86.9***
Mesabi, regular-unscreened	gross-ton 32.53
Mesabi, non-bessemer	gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper Lake ports. ***72.45¢—Cleveland-Cliffs as of 12/30/86. 72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82, Hanna Mining 2/26/82.

NONFERROUS PRICES

(Effective September 8, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	71.00	71.00	9/8/87
Copper (C)	83.00	81.00	9/8/87
Lead	42.00	38.00	7/6/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	240.00	243.00	9/8/87
Zinc	45.50	48.00	9/4/87

ALUMINUM: Avg. for last week & previous week. COPPER (C)=cathode. LEAD: common grade. MAGNESIUM: 99.8% pig delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$152.00
Beryllium 97% powder 200	$196.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz.	$456.95
Indium, per troy oz.	$9.95
Iridium, per troy oz.	$360.00
Magnesium sticks, 10,000 lbs.	$2.12
Mercury, per 76-lb., f.o.b. N.Y.	$348.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.45
Palladium, per troy oz.	$137.00
Platinum, per troy oz.	$594.00
Rhodium, per troy oz.	$1,285.00
Silver ingots, per troy oz.	$7.48
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.20-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

August 31—304.00
Sept. 1—303.00
Sept. 2—304.00
Sept. 3—304.00
Sept. 4—304.00

Scrap Prices
Brass Mill Scrap

(Cents per lb., over 20,000 lbs. add 1¢ per lb.)

	Solids	**Turnings**
Copper	60	55
Yellow brass	53½	52½
Red brass	54½	50½
Comm. bronze	56	51
Mang. bronze	43	42
Free cutting rod ends	52½	51½

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	58
No. 2 copper wire	49
Light copper	43

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	53
No. 2 copper wire	45
Light copper	38
No. 1 composition	46
No. 1 comp. turnings	46
Hvy. yellow brass solids	34
Hvy. yellow brass turnings	28
Radiators	31

Aluminum

New mixed clips	47	—	48
Old sheet	41	—	42
Old cast	41	—	42
Clean dry borings	42	—	43

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	42	—	43
Mixed L.C. clips	41	—	42
Old sheets and cast	35	—	36
Borings and turnings	30	—	31
Duraluminum clippings	35	—	36

Copper and Brass

No. 1 copper wire	50	—	53
No. 2 copper wire	41	—	42
Light copper	38	—	39
Radiators	27	—	28
No. 1 composition	42	—	43
No. 1 composition turnings	40	—	41
Cocks and faucets	36	—	37
Clean heavy yellow brass	32	—	34
Brass pipe	35	—	37
New soft brass clippings	46	—	47

Lead

Heavy soft lead	16	—	17
Whole batteries	2	—	3
Type metal	25	—	26
Electrotype	18	—	19

Nickel

Nickel solids	135	—	145
Nickel rod ends	143	—	153
Nickel sheets, clips	143	—	153
Nickel turnings	31	—	41

Zinc

New zinc clippings	16	—	17
Old diecast zinc	12	—	13

EFFECTIVE SEPTEMBER 8,1987

(Effective September 8, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 96.00 to	$ 97.00
No. 2 hvy. melting	86.00 to	87.00
No. 1 dealer bundles	131.00 to	132.00
No. 1 factory bundles (auto)	134.00 to	135.00
No. 2 bundles	57.00 to	58.00
No. 1 busheling	129.00 to	130.00
Machine shop turnings	13.00 to	14.00
Shoveling turnings	48.00 to	49.00
Cast iron borings	45.00 to	46.00
Low phos. punchings plate	135.00 to	136.00
Heavy turnings	86.00 to	87.00
No. 1 RR hvy. melting	104.00 to	105.00
Rails, 2 ft and under	124.00 to	125.00
Scrap rails, random lgth	100.00 to	101.00
RR specialties	124.00 to	125.00
No. 1 machinery cast	92.00 to	93.00
Cupola cast	84.00 to	85.00
Heavy breakable cast	30.00 to	31.00
Stainless:		
18-8 bundles and solids	625.00 to	635.00
18-8 turnings	525.00 to	535.00

Chicago

No. 1 hvy. melting	$ 97.00 to	$ 98.00
No. 2 hvy. melting	92.00 to	93.00
No. 1 dealer bundles	133.00 to	134.00
No. 1 factory bundles (auto)	131.00 to	132.00
No. 2 dealer bundles	73.00 to	74.00
No. 1 busheling	124.00 to	125.00
Shredder scrap	112.00 to	113.00
Machine shop turnings	28.00 to	29.00
Mixed borings and turnings	21.00 to	22.00
Shoveling turnings	31.00 to	32.00
Cast iron borings	44.00 to	45.00
Low phos. forge crop	129.00 to	130.00
Low phos. punchings plate		
1/4 in. and heavier	150.00 to	151.00
Low phos. 2 ft and under	144.00 to	145.00
No. 1 RR hvy. melting	104.00 to	105.00
Scrap rails random lgth	100.00 to	101.00
Reroller rails	110.00 to	111.00
Rails, 2 ft and under	144.00 to	145.00
RR couplers and knuckles	96.00 to	97.00
RR car axles	131.00 to	132.00
No. 1 machinery cast	108.00 to	109.00
Cupola cast	97.00 to	98.00
Stove plate	107.00 to	108.00
Steel car wheels	124.00 to	125.00
Stainless		
18-8 bundles and solids	565.00 to	575.00
18-8 turnings	410.00 to	420.00
430 bundles and solids	140.00 to	150.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 83.00 to	$ 86.00
No. 2 hvy. melting	73.00 to	76.00
No. 1 dealer bundles	117.00 to	120.00
No. 2 dealer bundles	44.00 to	47.00
No. 1 busheling	110.00 to	113.00
Shredder scrap	105.00 to	108.00
Machine shop turnings	24.00 to	27.00
Mixed borings and turnings	24.00 to	27.00
Shoveling turnings	41.00 to	44.00
Low phos. 5 ft and under	100.00 to	103.00
Low phos. 2 ft punchings	116.00 to	119.00
Electric furnace bundles	118.00 to	121.00
RR specialties	91.00 to	94.00
Rails, 2 ft and under	107.00 to	110.00
Cupola cast	82.00 to	85.00
Heavy breakable cast	52.00 to	55.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 63.00 to	$ 64.00
No. 2 hvy. melting	60.00 to	61.00
No. 1 dealer bundles	105.00 to	106.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	103.00 to	104.00
Drop forge flashings	59.00 to	60.00
Machine shop turnings	30.00 to	31.00
Mixed borings and turnings	9.00 to	10.00
Shoveling turnings	30.00 to	31.00
Cast iron borings	24.00 to	25.00
Heavy breakable cast	35.00 to	36.00
Mixed cupola cast	52.00 to	53.00
Automobile cast	74.00 to	75.00
Stainless		
18-8 bundles and solids	560.00 to	570.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 83.00 to	$ 84.00
No. 2 hvy. melting	75.00 to	76.00
No. 1 dealer bundles	111.00 to	112.00
No. 2 dealer bundles	53.00 to	54.00
Machine shop turnings	21.00 to	22.00
Shoveling turnings	21.00 to	22.00
Low phos. plate	100.00 to	101.00
Electric furnace bundles	91.00 to	92.00
Galvanized bundles	88.00 to	89.00

Cleveland

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 78.00 to	$ 79.00
No. 2 hvy. melting	68.00 to	69.00
No. 1 dealer bundles	111.00 to	112.00
No. 1 factory bundles	113.00 to	114.00
No. 2 bundles	49.00 to	50.00
No. 1 busheling	103.00 to	104.00
Machine shop turnings	26.00 to	27.00
Shoveling turnings	27.00 to	28.00
Cast iron borings	26.00 to	27.00
Cut structural & plates,		
5 ft and under	90.00 to	91.00
Cut structural & plates,		
2 ft and under	113.00 to	114.00
Low phos. punchings plate	116.00 to	117.00
Foundry steel, 2 ft & under	69.00 to	70.00
No. 1 RR hvy. melting	78.00 to	79.00
Rails, 2 ft and under	110.00 to	111.00
Rails, 18 in. and under	112.00 to	113.00
No. 1 machinery cast	85.00 to	86.00
Mixed cast	52.00 to	53.00
Stainless		
18-8 bundles	565.00 to	575.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	62.00 to	63.00
No. 1 busheling	106.00 to	107.00
No. 1 dealer bundles	107.00 to	108.00
No. 2 bundles	35.00 to	36.00
Machine shop turnings	16.00 to	17.00
Mixed borings and turnings	15.00 to	17.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	29.00 to	30.00
Low phos. plate	95.00 to	96.00
Structural and plate,		
2 ft and under	100.00 to	101.00
Rails, 2 ft and under	104.00 to	105.00
Scrap rails, random lgth	84.00 to	85.00
No. 1 machinery cast	84.00 to	85.00
No. 1 cupola cast	72.00 to	73.00

St. Louis

No. 1 hvy. melting	$ 94.00 to	$ 95.00
No. 2 hvy. melting	84.00 to	85.00
No. 1 busheling	111.00 to	112.00
No. 1 dealer bundles	116.00 to	117.00
No. 2 bundles	77.00 to	78.00
Machine shop turnings	20.00 to	21.00
Shoveling turnings	24.00 to	25.00
Cast iron borings	29.00 to	30.00
No. 1 RR hvy. melting	104.00 to	105.00
Rails, random length	93.00 to	94.00
Rails, 5 ft and under	110.00 to	111.00
RR specialties	104.00 to	105.00
Cupola cast	73.00 to	74.00
Heavy breakable cast	43.00 to	44.00
Stove plate	100.00 to	101.00
Steel car wheels	109.00 to	110.00
Rerolling rails	115.00 to	116.00
Unstripped motor blocks	60.00 to	61.00

Birmingham

No. 1 hvy. melting	$ 90.00 to	$ 91.00
No. 2 hvy. melting	83.00 to	84.00
No. 1 dealer bundles	89.00 to	90.00
No. 2 bundles	62.00 to	63.00
No. 1 busheling	89.00 to	90.00
Shredder scrap	107.00 to	108.00
Machine shop turnings	36.00 to	37.00
Shoveling turnings	45.00 to	46.00
Cast iron borings	40.00 to	41.00
Electric furnace bundles	82.00 to	83.00
Elec. furnace, 3 ft & under	86.00 to	87.00
Structural and plate, 2 ft	104.00 to	105.00
Structural and plate, 4 ft	102.00 to	103.00
No. 1 RR hvy. melting	102.00 to	103.00
Scrap rails, random lgth	94.00 to	95.00
Rails, 2 ft and under	109.00 to	110.00
Angles and splice bars	98.00 to	99.00
No. 1 cupola cast	85.00 to	86.00
Unstripped motor blocks	82.00 to	83.00

Cincinnati

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 76.00 to	$ 77.00
No. 2 hvy. melting	66.00 to	67.00
No. 1 dealer bundles	103.00 to	104.00
No. 2 bundles	42.00 to	43.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	20.00 to	21.00
Cast iron borings	29.00 to	30.00
Low phos. 18 in. and under	104.00 to	105.00
Rails, random length	91.00 to	92.00
Rails, 2 ft and under	109.00 to	110.00
No. 1 cupola cast	75.00 to	76.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	78.00 to	79.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	31.00 to	32.00
No. 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	400.00 to	420.00
18-8 turnings	315.00 to	335.00
430 prepared solids	100.00 to	110.00
430 solids	85.00 to	95.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 60.00 to	$ 62.00
No. 2 hvy. melting	50.00 to	52.00
No. 1 dealer bundles	88.00 to	90.00
No. 2 bundles	30.00 to	32.00
No. 1 busheling	86.00 to	88.00
Shredder scrap	78.00 to	80.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	75.00 to	80.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 48.00 to	$ 50.00
No. 2 hvy. melting	42.00 to	44.00
No. 1 dealer bundles	39.00 to	41.00
No. 2 dealer bundles	28.00 to	29.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	79.00 to	81.00

Los Angeles

No. 1 hvy. melting	$ 46.00 to	$ 48.00
No. 2 hvy. melting	40.00 to	42.00
No. 1 dealer bundles	38.00 to	40.00
No. 2 dealer bundles	24.00 to	26.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
Elec. furnace 1 ft and under		
(foundry)	70.00 to	72.00
No. 1 cupola cast	74.00 to	76.00

Seattle

No. 1 hvy. melting	$ 68.00 to	$ 70.00
No. 2 hvy. melting	59.00 to	61.00
No. 2 bundles	41.00 to	42.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 81.00
No. 2 hvy. melting, cut 2 ft and under	71.00
No. 1 dealer bundles	96.00
No. 2 bundles	61.00
Mixed steel scrap	56.00
Bush. new fact. prep'd	91.00
Bush. new fact. unprep'd	74.00
Machine shop turnings	30.00
Short steel turnings	32.00
Mixed borings and turning	19.00
Cast scrap	90.00

Houston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 84.00 to	$ 85.00
No. 2 hvy. melting	74.00 to	75.00
No. 2 bundles	46.00 to	47.00
Machine shop turnings	31.00 to	32.00
Crushed turnings	41.00 to	42.00
Shredder scraps	90.00 to	91.00
Cut structural plate, 2 ft and under	99.00 to	100.00
Cut structural plate, 5 ft and under	89.00 to	90.00
Unstripped motor blocks	60.00 to	61.00
Cupola cast	94.00 to	95.00

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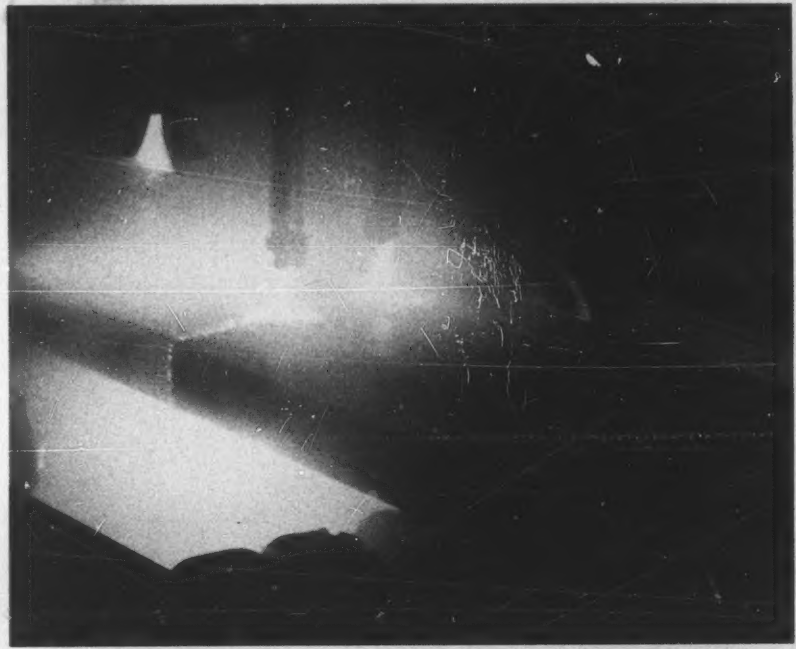
CONTENTS

MAY 1987, Vol. 3, No. 5

Stand Alone Steelmaking: Steel operations will have to swim if they are to stay afloat because they are being separated from diverse corporate structures.

Special Feature-P.18



The heat is on steel to stand on its own and produce a profit.

EDITORIAL

P.5—One Out of Every Three Ain't Good.

NEWSWATCH

P.11—Steel Imports
Specialty steelmakers and the Steelworkers ask a U.S. trade panel to extend for three years the import restraints on specialty steel.

STEEL

P.18—Stand Alone Steelmaking
A wave of spin-offs and sell-offs has spawned a host of new steel companies, some of whom are turning a tidy profit.

SERVICE CENTERS

P.31—Service Centers
Metal distributors are doing more pre-production processing, adding new equipment and using more computers to fine tune inventories.

GOVERNMENT

P.39—Pension Corp.
Steel industry bankruptcies are sending the Federal Pension Benefit Guaranty Corp. deeper and deeper into the red.

COILBOX

P.43—Acme Steel
Its new coilbox is helping this steelmaker to provide narrow strip that can meet high quality demands.

SLAG CASTING

P.46—Electroslag Casting
The latest competition for the forging is the quick, inexpensive electroslag casting. Its mechanical properties and chemistries are uniform.

ADVANCED MATERIALS

P.48—Metal Tests
The nickel- and copper-based alloys performed well in new tests to gage the ignition and burning traits of existing metals in oxygen systems.

STEEL BY GEORGE

P.52—Steel's Turning Point
There is no longer a huge cushion of surplus capacity standing between steel users and a shortage.

MATERIALS REPORT

P.53—Steel Summary
Order rates indicate a boom, but steelmakers are wary.

DEPARTMENTS

P.6—Editorial Staff
P.49—Product Review
P.51—Free Literature
P.54—P&P Data
P.55—Ferrous Scrap
P.56—Ad Index
P.56—Business Staff
P.57—Reader Service Card

NEXT ISSUE:

Hot Surface Inspection

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STEEL BANKRUPTCIES EMPTY THE PENSION AGENCY'S TILL

The Pension Benefit Guaranty Corp. says it will be hard pressed to pick up the tab for industry pensions. Though Congress tripled its income last year, the Federal agency is nearly broke.

The sinking of LTV Steel Corp. into a sea of red ink will eventually cost U.S. businesses billions to shore up an obscure government agency that underwrites pension funds.

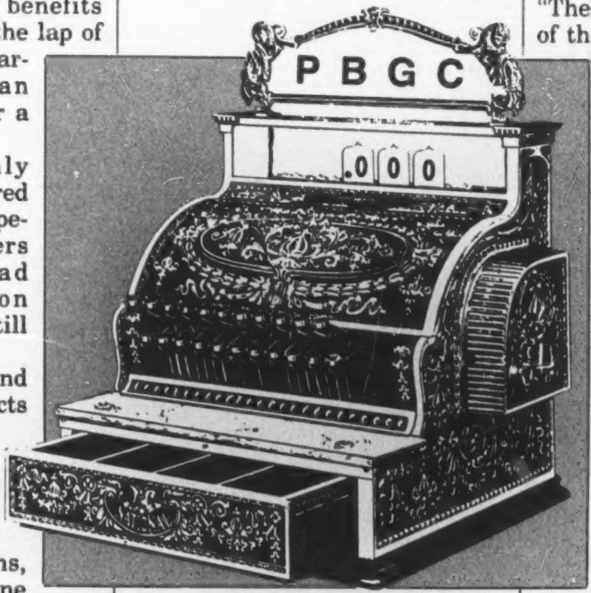
When the nation's second largest steelmaker went broke several months ago, it also sank three huge pension funds. And that action in turn dumped $2.2 billion in guaranteed pension benefits that must be paid into the lap of the Pension Benefit Guaranty Corp. (PBGC), an agency created under a 1974 Federal law.

That law, commonly known as ERISA, required the PBGC to create a special fund to pay workers whose companies had dropped their pension plans, but who were still owed pensions.

To keep that special fund solvent, the PBGC collects premiums from private companies and labor unions to meet the obligations of companies that have abandoned their pension obligations, even if they haven't gone broke. The agency estimates that close to 40 million private industry workers are protected in this way under 112,000 pension plans.

Now the agency is nearly broke, though only last year it persuaded Congress to triple its main source of income, the annual premiums it charges more than 100,000 private companies. The premiums rose from $2.60 per worker per year to $8.50.

But even before LTV dropped its pension obligations, that increase wasn't enough to shore up the agency's sagging finances.



The situation was outlined late last year by Kathleen Utgoff, the executive director of the PBGC. "If things had gone as projected two years ago (in 1984), we might have eked through," she explained. "But our problems are much worse."

She was referring to the fact that last year both Wheeling-Pittsburgh and Allis-Chalmers Corp. had gone into bankruptcy court and the LTV bankruptcy was imminent. As part of its arrangement with sponsors of troubled pension plans, the PBGC can lay claim to the assets of a company's plan to avoid having to pay benefits from the funds other employers are required to contribute.

But in reality, by the time a company goes into bankruptcy, it has used up the assets of the pension plan in a frantic effort to cut costs.

That happened in the case of LTV, Ms. Utgoff said when her agency moved in court to dissolve the three LTV pension plans. She explained to reporters, "LTV has not complied with minimum funding standards for the 1984 and 1985 plan years. Officials of the company informed the PBGC... of the company's inability to make further contributions to the pension plans."

Then she got to the main issue, "These plans have only one-third of the funding needed to pay the benefits promised to participants and retirees."

She pointed out that other steel companies have helped deplete the agency's treasury. In 1977, the pension plan of the Alan Wood Steel Co. was terminated with $41 million in underfunding.

That was followed by Continental Steel, with $61 million in underfunding; McLouth Steel with $51 million; Mesta Machine at $36 million; Phoenix Steel at $43 million; Washburn Wire with $21 million; Wheeling-Pittsburgh with a whopping $498 million; and Wisconsin Steel at $62 million in underfunded pensions.

Those steel industry plan terminations, which occurred before LTV failed, caused half of the current deficit faced by the PBGC. And, Ms. Utgoff said, LTV's addition of almost $2.3 billion to the agency's obligations caused the steel industry's terminated pension plans to make up over two-thirds of the PBGC's deficit.

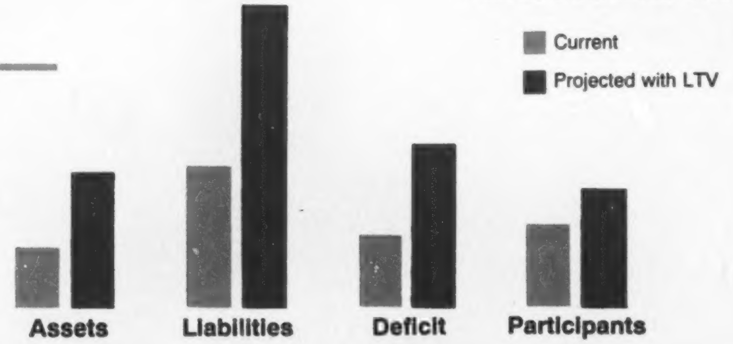
Late last year, the agency issued some gloomy predictions for its financial future in 1987, with the premium plus income from investments providing a total in-

LTV Corporation Pension Facts

Plan Name	Participants	Retirees	Assets in Trust (millions)	Estimated Present Value of Guaranteed Benefits (millions)	Estimated Underfunding (millions)
Republic Steel Retirement Plan *	7,700	3,300	$.008	$230	$230
Jones and Laughlin Retirement Plan ** (Salaried)	15,4000	7,7000	310	630	320
Pension Plan of Republic Steel ** (Hourly)	41,600	22,400	650	1,190	540
Jones and Laughlin Hourly Pension Plan **	43,900	26,000	360	1,590	1,230
Estimated Totals	**108,600**	**59,400**	**$1,320**	**$3,640**	**$ 2,320**

* PBGC appointed trustee 10/2/86.
** PBGC filed for termination date of 1/13/87

LTV Impact on PBGC



come of about $425 million. However, the agency's payments to retired workers were then assumed to be about $690 million. As of last September, Ms. Utgoff said, the pension corporation had assumed long-term liabilities for pension benefit payments of $4.6 billion—but its assets totaled only $2.2 billion. And, she added, the gap between the agency's assets and liabilities was likely to reach $4 billion by this September.

"That means," she explained, "we are $2.4 billion short of what is needed to meet the promises we have already made."

But those were only preliminary estimates, and after the LTV collapse became official, the agency went back to its books and issued an annual report last month for the year ending last Sept. 30.

For that year, its deficit had reached $3.8 billion, and its liabilities had more than doubled over the previous year to $5.6 billion while assets were at $1.8 billion.

And in that year alone, the number of persons that it is responsible for paying benefits doubled, a figure swelled by the 108,600 persons enrolled in the three collapsed LTV pension plans.

The agency also explained that company bankruptcies were depleting its funds faster than anyone could have imagined several years ago. In fiscal 1986 alone, the PBGC became the trustee of 120 terminated single employer pension programs, and a total of 1,345 single-employer plans were in trusteeship or pending trusteeship.

More importantly, the agency also made some projections about what will nappen in the next few years if it doesn't get more money. Based on projections of future claims, its fund from premiums and investments would be available to pay benefits only through fiscal 1988 at the earliest or fiscal 1989 at the latest.

The agency also said that when that fund is gone, the PBGC would have to start using more of the assets it has in a special trust fund to meet benefit obligations, with that money running out in fiscal 2003.

Ms. Utgoff told reporters, "The PBGC is running out of money. Its financial crisis poses a serious threat to the future of the pension insurance program. Retirees who depend on us are not in immediate danger, but action is needed now to secure these promises for the future."

Insurance Claims

She also noted that claims against the agency's insurance program over the past few years were much larger than those of the late 1970s. Ms. Utgoff pointed out that over the agency's first four years of operations, PBGC funds were needed to pay, on average, about 45 pct of the benefits in PBGC-trusteed pension plans. But over the last four years, she said, PBGC funds have been needed to pay, on average, about 61 pct of the benefits in significantly larger plans requiring PBGC trusteeship.

In that area, Ms. Utgoff pointed out that net dollar claims on the agency's insurance program during the past five years were also much larger than those made in earlier years. Including pending terminations, she said, average net claims for the past five years were $711 million, and for the first 12 years of the corporation's history those claims averaged $325 million.

She concluded, "The time to act is now, before we run out of money, because additional terminations of large poorly funded claims could deplete the insurance fund even sooner."

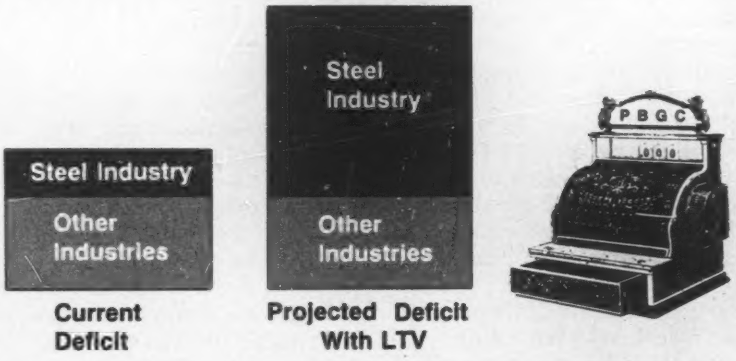
Earlier, she had said, "What we're doing is not good for the economy. We're basically propping up losers. Some companies could not survive without us. If we weren't making these automatic handouts to industry, then company pension plans wouldn't get so underfunded."

Her boss, Labor Secretary William Brock, also talked tough about industry, charging, "What's happening is that firms are declaring bankruptcy, unloading their pension liabilities on the Federal government, and then, are operating under Chapter 11 reorganization."

Major Steel Industry Pension Plan Terminations

Company	Date of Termination	Plan Underfunding (in millions of dollars)	Participants Total/Retired
Alan Wood	1977	41	3,400/1,100
Continental	1986	61	3,200/1,600
LTV Steel	1986-1987	2,320	108,600/50,400
McLouth	1982	51	5,500/1,400
Mesta Machine	1983	36	1,800,200
Phoenix Steel	1983	43	3,200/1,100
Washburn Wire	1976-1979	21	1,500/700
Wheeling-Pittsburgh	1985	498	21,500/10,000
Wisconsin	1980	62	4,000/1,400

Impact of Steel Industry Terminations



With that crisis as a background, the PBGC will go to Congress later this year with detailed plans for rescuing its fund. Early drafts of its proposals have been floating around Washington for several weeks.

Those documents lay out the basic strategy for convincing Congress to rescue the PBGC both in terms of short term capital and long term solvency.

The latest proposals include:

—Having employers whose vested pension benefit obligations are overfunded by at least 125 pct pay the current premium of $8.50 per plan participant. However, this premium would be indexed to the average annual increase in national wages.

—Pension programs that are less than 125 pct overfunded would pay, in addition to the $8.50 annual premium, a "funding charge" of $6 per $1,000 of underfunding per plan participant. A plan would be considered underfunded if its assets did not exceed its vested benefit obligations by at least 24 pct.

—The PBGC would have the authority to move the funding charge up or down by up to 50 pct every three years if claims experience proved better or worse than expected. But since claims seem to be zooming upward, that adjustment would probably follow that pattern.

—The annual premium would be capped at $100, but that limit would be indexed to 150 pct of the annual increase in national wages. As an example, if wages rose 5 pct, then the premium cap could go up by 7.5 pct.

—Employers that get pension funding waivers from the Internal Revenue Service would be hit with an additional premium surcharge. Under this proposal, the surcharge for a company that gets a waiver exempting it from making minimum pension contributions could be up to 50 pct of the funding charge. For example, a company getting a waiver and whose funding charge was $36 would also pay a funding charge of $18. Thus, the total premium, including the basic $8.50 premium, could be $62.50 for each worker in the pension plan. This funding surcharge would apply only to waivers approved after the proposal was enacted into law.

—And, importantly, the employer, rather than the pension plan itself, would be liable for paying the PBGC premium. In addition, all members of what's termed a "controlled group," rather than just the individual employer sponsoring the plan, would be liable for premium payments. As an example of how this would work, if one member of a corporate family, or "controlled group," terminated a pension plan and failed to make the required PBGC premium payments, the corporation's other units would be responsible for paying the premiums.

Considering the PBGC's deficit has soared from $462 million to over $4 billion in just one year, some experts think this type of rescue proposal might be more fair to employers than simply asking Congress to increase the yearly premium under the current flat rate system. They also project that a flat rate of $40 to $50 per year for each worker in a plan might be needed to pay off the deficit, and of course the premium could go much higher if the PBGC gets slapped with more multi-billion dollar claims.

'The financial crisis poses a serious threat to the future of the pension insurance program,' says Kathleen Utgoff, PBGC executive director.

And employers with well-funded plans resent subsidizing badly funded programs through increased premiums, and claim it's time to stop raising the PBGC premium for all plans.

Stuart Brahs, executive director of the Association of Private Pension and Welfare Plans in Washington, said, "Increasing the premium is not the answer."

There are also fears that if the premium continues to soar, employers with well-funded pension systems will simply walk away from their plans because they would feel unfairly taxed to pay for companies not willing to shell out enough to keep their pension programs healthy. As Ms. Utgoff put it, "We do not want to tax the defined benefit plan system out of existence."

She points out that a variable-rate premium would reward those companies that responsibly fund their plans through a lower PBGC premium. At the same time, it would also encourage other firms to beef up funding if their plans are inadequate.

Frank McArdle, the educational director of the Employee Benefit Research Association, explained, "Some employers will see a variable-rate premium as a more equitable way to fund the PBGC's liabilities, while creating incentives so that plans may become better funded."

Since the Reagan Administration first outlined its variable-rate proposal several months ago, several business groups have endorsed the concept..

In February, the Risk and Insurance Management Society, a trade group that serves company managers of pension plans, endorsed the variable rate concept as a way to make the companies with the highest risks on pension funds pay the highest premiums.

Last month, the National Association of Manufacturers lent its support to the variable-rate premium as a fairer way of splitting up the costs to support the PBGC.

However, Ms. Utgoff's proposals will also face some opposition from employers who are certain to question why a pension plan must be 125 pct overfunded to qualify for the low $8.50 premium.

And in political Washington any proposal—fair or not—calling for raising taxes on anyone is bound to send the politicians running for cover. Congress thought it was through with the PBGC for at least a while after it raised pension taxes last year.

As one corporate lobbyist put it, "I'm sure Ms. Utgoff's plan is fair... but no politician in his right mind wants to do anything about taxes this year or next."

Whether it takes one year or three, most observers agree on another matter: Eventually Congress will have to raise the premiums to keep the PBGC from going broke—the only question is how.

By Whitt Flora

MATERIALS PRICES

PRICE & PRODUCTION DATA

(Effective April 6, 1987)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	196	188	157	184
Pittsburgh	194	200	199	228
Youngstown	116	119	109	107
Lake Erie	121	135	120	142
Detroit	154	161	156	148
Chicago	453	464	314	518
Midwest	194	203	168	167
Southern	170	173	158	199
Western	52	53	45	87
U.S. Production	1,650	1,696	1,426	1,780

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.45-86.9***
Mesabi, regular-unscreened	gross-ton 32.53
Mesabi, non-bessemer	gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper Lake ports. ***72.45¢—Cleveland-Cliffs as of 12/30/86. 72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82, Hanna Mining 2/26/82

STEEL PRODUCTION, COMPOSITE PRICES

(Effective April 6, 1987)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,650	1,696	20,460	23,799
Capability Utilization Rate	76.7	78.7	70.0	71.1

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 1/4/87)	25.236	25.236	25.236	24.607
Pig Iron** (Net ton= 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 73.17	$ 73.50	$ 74.83	$ 73.83
No. 2 bundles	$ 49.83	$ 49.83	$ 50.50	$ 53.50

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh	$ 76.50	$ 77.50	$ 79.50	$ 73.50
No. 1 steel, Philadelphia	70.50	70.50	70.50	73.50
No. 1 steel, Chicago	72.50	72.50	74.50	74.50
No. 1 bundles, Detroit	66.50	72.50	76.50	62.50
Low Phos., Youngstown	75.50	80.50	80.50	73.50
No. 1 mach'y cast., Pgh	74.50	74.50	74.50	73.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	93.50	95.50	95.50	109.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective April 6, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	63.00	61.10	4/6/87
Copper (C)	67.00	68.50	4/1/87
Lead	26.00	27.00	2/2/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	172.00	171.00	4/6/87
Zinc	47.00	44.50	10/6/86

ALUMINUM: Avg. for last week & previous week. COPPER (C)=cathode. LEAD: common grade. MAGNESIUM: 99.8% pig. delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$152.00
Beryllium 97% powder 200	$196.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz	$418.70
Indium, per troy oz.	$3.60
Iridium, per troy oz.	$405.00
Magnesium sticks, 10,000 lbs	$2.12
Mercury, per 76-lb., f.o.b. N.Y.	$215.00-245.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.45
Palladium, per troy oz	$127.00
Platinum, per troy oz.	$540.00
Rhodium, per troy oz	$1,174.00
Silver ingots, per troy oz	$6.32
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.20-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

March 30—294.00
March 31—295.00
April 1—296.00
April 2—295.00
April 3—296.00

Scrap Prices
Brass Mill Scrap

(Cents per lb.; over 20,000 lbs. add 1¢ per lb.)

	Solids	**Turnings**
Copper	55½	50½
Yellow brass	49	48
Red brass	50	46
Comm. bronze	51½	46½
Mang. bronze	38½	37½
Free cutting rod ends	48	47

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	55
No. 2 copper wire	46
Light copper	40

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	48
No. 2 copper wire	40
Light copper	33
No. 1 composition	41
No. 1 comp. turnings	41
Hvy. yellow brass solids	29
Hvy. yellow brass turnings	23
Radiators	27

Aluminum

New mixed clips	39 — 40
Old sheet	33 — 34
Old cast	33 — 34
Clean dry borings	34 — 35

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	34 — 35
Mixed L.C. clips	33 — 34
Old sheets and cast	27 — 28
Borings and turnings	23 — 24
Duraluminum clippings	27 — 28

Copper and Brass

No. 1 copper wire	44 — 47
No. 2 copper wire	35 — 36
Light copper	32 — 33
Radiators	22 — 23
No. 1 composition	36 — 37
No. 1 composition turnings	34 — 35
Cocks and faucets	30 — 31
Clean heavy yellow brass	26 — 28
Brass pipe	26 — 27
New soft brass clippings	39 — 40

Lead

Heavy soft lead	9 — 10
Whole batteries	1 — 2
Type metal	18 — 19
Electrotype	13 — 14

Nickel

Nickel solids	100 —110
Nickel rod ends	100 —110
Nickel sheets, clips	100 —110
Nickel turnings	25 — 35

Zinc

New zinc clippings	14 — 15
Old diecast zinc	10 — 11

EFFECTIVE APRIL 6, 1987

(Effective April 6, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 76.00 to	$ 77.00
No. 2 hvy. melting	66.00 to	67.00
No. 1 dealer bundles	93.00 to	94.00
No. 1 factory bundles (auto)	97.00 to	98.00
No. 2 bundles	45.00 to	46.00
No. 1 busheling	91.00 to	92.00
Machine shop turnings	8.00 to	9.00
Shoveling turnings	46.00 to	47.00
Cast iron borings	43.00 to	44.00
Low phos. punchings plate	99.00 to	100.00
Heavy turnings	66.00 to	67.00
No. 1 RR hvy. melting	86.00 to	87.00
Rails, 2 ft. and under	98.00 to	99.00
Scrap rails, random lgth	86.00 to	87.00
RR specialties	97.00 to	98.00
No. 1 machinery cast	74.00 to	75.00
Cupola cast	67.00 to	68.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	500.00 to	510.00
18-8 turnings	400.00 to	410.00

Chicago

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	68.00 to	69.00
No. 1 dealer bundles	87.00 to	88.00
No. 1 factory bundles (auto)	87.00 to	88.00
No. 2 dealer bundles	60.00 to	61.00
No. 1 busheling	82.00 to	83.00
Shredder scrap	79.00 to	80.00
Machine shop turnings	22.00 to	23.00
Mixed borings and turnings	15.00 to	16.00
Shoveling turnings	25.00 to	26.00
Cast iron borings	40.00 to	41.00
Low phos. forge crop	93.00 to	94.00
Low phos. punchings plate 1/4 in. and heavier	108.00 to	109.00
Low phos. 2 ft. and under	101.00 to	102.00
No. 1 RR hvy. melting	76.00 to	77.00
Scrap rails random lgth	81.00 to	82.00
Reroller rails	99.00 to	100.00
Rails, 2 ft. and under	92.00 to	93.00
RR couplers and knuckles	73.00 to	74.00
RR car axles	98.00 to	99.00
No. 1 machinery cast	93.00 to	94.00
Cupola cast	83.00 to	84.00
Stove plate	96.00 to	97.00
Steel car wheels	84.00 to	85.00
Stainless		
18-8 bundles and solids	460.00 to	470.00
18-8 turnings	350.00 to	360.00
430 bundles and solids	125.00 to	135.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 69.00 to	$ 72.00
No. 2 hvy. melting	61.00 to	64.00
No. 1 dealer bundles	86.00 to	89.00
No. 2 dealer bundles	42.00 to	45.00
No. 1 busheling	80.00 to	83.00
Shredder scrap	84.00 to	87.00
Machine shop turnings	24.00 to	27.00
Mixed borings and turnings	24.00 to	27.00
Shoveling turnings	39.00 to	42.00
Low phos. 5 ft. and under	78.00 to	81.00
Low phos. 2 ft. punchings	96.00 to	99.00
Electric furnace bundles	88.00 to	91.00
RR specialties	80.00 to	83.00
Rails, 2 ft. and under	96.00 to	99.00
Cupola cast	79.00 to	82.00
Heavy breakable cast	52.00 to	55.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 49.00 to	$ 50.00
No. 2 hvy. melting	47.00 to	48.00
No. 1 dealer bundles	66.00 to	67.00
No. 2 bundles	33.00 to	34.00
No. 1 busheling	64.00 to	65.00
Drop forge flashings	39.00 to	40.00
Machine shop turnings	17.00 to	18.00
Mixed borings and turnings	6.00 to	7.00
Shoveling turnings	17.00 to	18.00
Cast iron borings	20.00 to	21.00
Heavy breakable cast	32.00 to	33.00
Mixed cupola cast	47.00 to	48.00
Automobile cast	71.00 to	72.00
Stainless		
18-8 bundles and solids	450.00 to	460.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 60.00 to	$ 61.00
No. 2 hvy. melting	59.00 to	60.00
No. 1 dealer bundles	80.00 to	81.00
No. 2 dealer bundles	34.00 to	35.00
Machine shop turnings	15.00 to	16.00
Shoveling turnings	15.00 to	16.00
Low phos. plate	75.00 to	76.00
Electric furnace bundles	65.00 to	66.00
Galvanized bundles	62.00 to	63.00

Cleveland

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 56.00 to	$ 57.00
No. 2 hvy. melting	53.00 to	54.00
No. 1 dealer bundles	79.00 to	80.00
No. 1 factory bundles	79.00 to	80.00
No. 2 bundles	33.00 to	34.00
No. 1 busheling	69.00 to	70.00
Machine shop turnings	14.00 to	15.00
Shoveling turnings	18.00 to	19.00
Cast iron borings	19.00 to	20.00
Cut structural & plates, 5 ft. and under	64.00 to	65.00
Cut structural & plates, 2 ft. and under	89.00 to	90.00
Low phos. punchings plate	89.00 to	90.00
Foundry steel, 2 ft. & under	56.00 to	57.00
No. 1 RR hvy. melting	62.00 to	63.00
Rails, 2 ft. and under	94.00 to	95.00
Rails, 18 in. and under	96.00 to	97.00
No. 1 machinery cast	83.00 to	84.00
Mixed cast	50.00 to	51.00
Stainless		
18-8 bundles	445.00 to	455.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 54.00 to	$ 55.00
No. 2 hvy. melting	44.00 to	45.00
No. 1 busheling	75.00 to	76.00
No. 1 dealer bundles	75.00 to	76.00
No. 2 bundles	29.00 to	30.00
Machine shop turnings	13.00 to	14.00
Mixed borings and turnings	13.00 to	14.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	27.00 to	28.00
Low phos. plate	77.00 to	78.00
Structural and plate, 2 ft. and under	79.00 to	80.00
Rails, 2 ft. and under	81.00 to	82.00
Scrap rails, random lgth	63.00 to	64.00
No. 1 machinery cast	76.00 to	77.00
No. 1 cupola cast	71.00 to	72.00

St. Louis

No. 1 hvy. melting	$ 65.00 to	$ 66.00
No. 2 hvy. melting	55.00 to	56.00
No. 1 busheling	80.00 to	81.00
No. 1 dealer bundles	82.00 to	83.00
No. 2 bundles	53.00 to	54.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	26.00 to	27.00
No. 1 RR hvy. melting	75.00 to	76.00
Rails, random length	76.00 to	77.00
Rails, 5 ft. and under	86.00 to	87.00
RR specialties	75.00 to	76.00
Cupola cast	66.00 to	67.00
Heavy breakable cast	40.00 to	41.00
Stove plate	85.00 to	86.00
Steel car wheels	85.00 to	86.00
Rerolling rails	99.00 to	100.00
Unstripped motor blocks	49.00 to	50.00

Birmingham

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	67.00 to	68.00
No. 1 dealer bundles	72.00 to	73.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	72.00 to	73.00
Shredder scrap	88.00 to	89.00
Machine shop turnings	28.00 to	29.00
Shoveling turnings	37.00 to	38.00
Cast iron borings	34.00 to	35.00
Electric furnace bundles	68.00 to	69.00
Elec. furnace, 3 ft. & under	74.00 to	75.00
Structural and plate, 2 ft.	91.00 to	92.00
Structural and plate, 4 ft.	86.00 to	87.00
No. 1 RR hvy. melting	86.00 to	87.00
Scrap rails, random lgth	77.00 to	78.00
Rails, 2 ft. and under	94.00 to	95.00
Angles and splice bars	86.00 to	87.00
No. 1 cupola cast	82.00 to	83.00
Unstripped motor blocks	74.00 to	75.00

Cincinnati

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 55.00 to	$ 56.00
No. 2 hvy. melting	49.00 to	50.00
No. 1 dealer bundles	75.00 to	76.00
No. 2 bundles	29.00 to	30.00
Machine shop turnings	10.00 to	11.00
Shoveling turnings	13.00 to	14.00
Cast iron borings	22.00 to	23.00
Low phos. 18 in. and under	79.00 to	80.00
Rails, random length	63.00 to	64.00
Rails, 2 ft. and under	83.00 to	84.00
No. 1 cupola cast	66.00 to	67.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	71.00 to	72.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	31.00 to	32.00
No. 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	370.00 to	390.00
18-8 turnings	270.00 to	310.00
430 prepared solids	90.00 to	100.00
430 solids	75.00 to	85.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 49.00 to	$ 51.00
No. 2 hvy. melting	39.00 to	41.00
No. 1 dealer bundles	53.00 to	55.00
No. 2 bundles	32.00 to	34.00
No. 1 busheling	56.00 to	58.00
Shredder scrap	59.00 to	61.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	72.00 to	77.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 40.00 to	$ 42.00
No. 2 hvy. melting	34.00 to	36.00
No. 1 dealer bundles	31.00 to	33.00
No. 2 dealer bundles	20.00 to	21.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	80.00 to	82.00

Los Angeles

No. 1 hvy. melting	$ 34.00 to	$ 36.00
No. 2 hvy. melting	28.00 to	30.00
No. 1 dealer bundles	26.00 to	28.00
No. 2 dealer bundles	16.00 to	18.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
Elec. furnace, 1 ft. and under (foundry)	67.00 to	69.00
No. 1 cupola cast	72.00 to	74.00

Seattle

No. 1 hvy. melting	$ 60.00 to	$ 62.00
No. 2 hvy. melting	51.00 to	53.00
No. 2 bundles	35.00 to	37.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 76.00
No. 2 hvy. melting, cut 2 ft. and under	66.00
No. 1 dealer bundles	86.00
No. 2 bundles	58.00
Mixed steel scrap	51.00
Bush. new fact. prep'd	86.00
Bush. new fact. unprep'd	69.00
Machine shop turnings	30.00
Short steel turnings	30.00
Mixed borings and turning	19.00
Cast scrap	90.00

Houston

Brokers buying prices per gross ton on cars:

No. 1 hvy. melting	$ 62.00 to	$ 63.00
No. 2 hvy. melting	52.00 to	53.00
No. 2 bundles	33.00 to	34.00
Machine shop turnings	13.00 to	14.00
Crushed turnings	23.00 to	24.00
Shredder scrap	73.00 to	74.00
Cut structural plate, 2 ft. and under	85.00 to	86.00
Cut structural plate, 5 ft. and under	70.00 to	71.00
Unstripped motor blocks	52.00 to	53.00
Cupola cast	83.00 to	84.00

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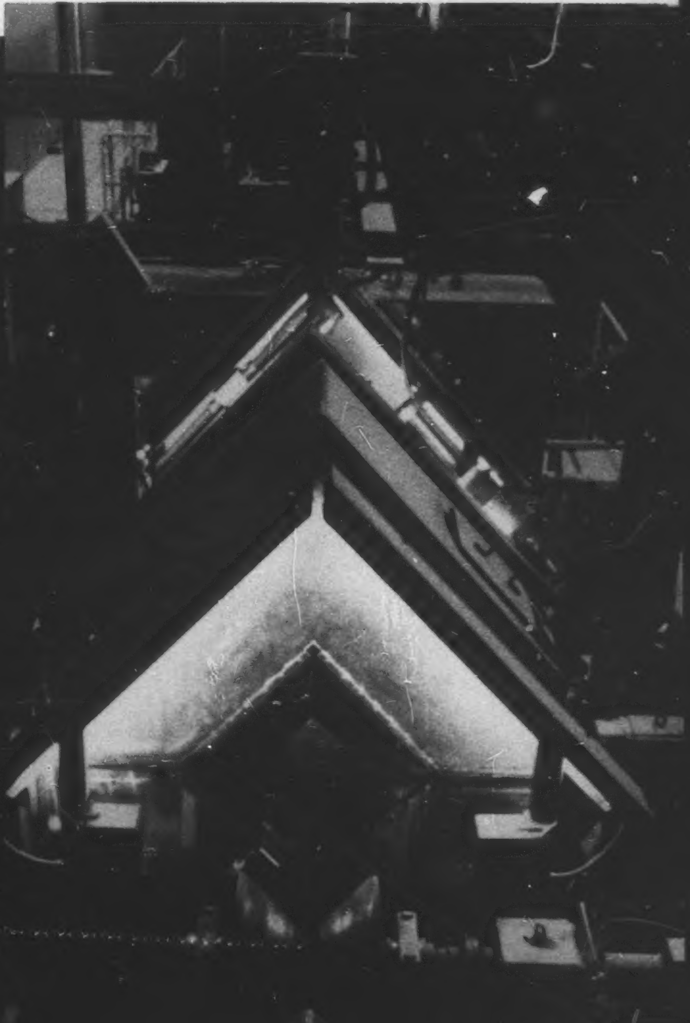
IRON AGE
JUNE 1987
METALS PRODUCER

STEEL TAKES A HARD LOOK AT SURFACE INSPECTION

TUSCALOOSA STEEL—

IN THE RIGHT PLACE AT THE RIGHT TIME



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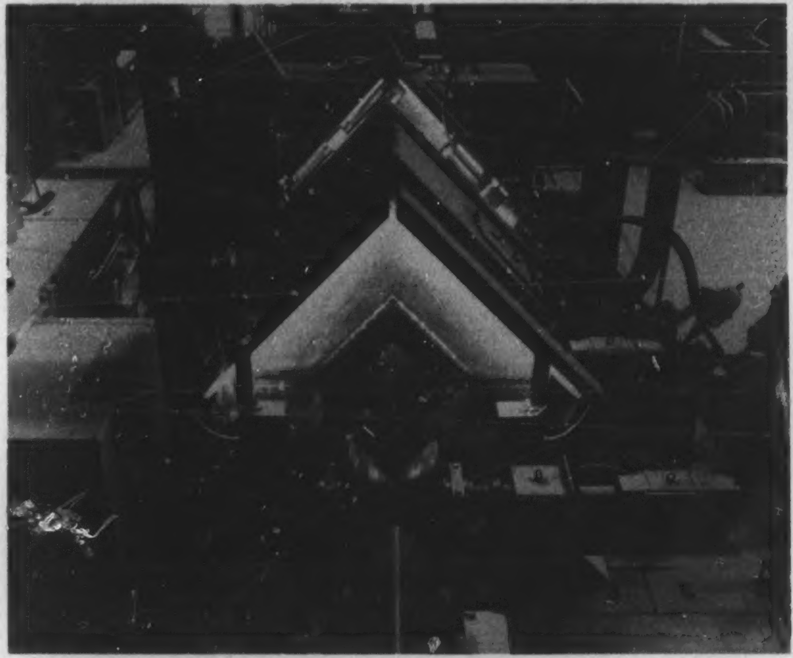
CONTENTS

JUNE 1987, Vol. 3, No. 6

Surface Inspection: Electronics are opening the way for the steel industry to make dramatic gains in inspection technology.

Special Feature-P.17



Billet surfaces are inspected at Timken's Faircrest plant.

EDITORIAL

P.3—Who's Wearing The Black Hats Around Here?

NEWSWATCH

P.7—Wheeling-Pittsburgh
A new chief executive takes over at the financially troubled steelmaker.

ORDER TRENDS

P.13—Defense Orders
Military outlays pushed the overall orders total up sharply in March.

INSPECTION

P.17—Inspection Equipment
Though the industry is awash in new inspection technology, there's little money to spend on this equipment.

ROLLING MILLS

P.23—Tuscaloosa Steel
The new plate mill was up and rolling in time to catch this year's rebound in the plate market.

EARNINGS

P.29—First Quarter Profits
The major steel producers posted profits in the first quarter, but much of the money came from a government refund for unused investment credits.

FURNACES

P.34—Klockner-CRA
With two new processes ready for the hot end of the mill, it continues its emphasis on efficient heat transfer.

CONTINUOUS CASTING

P.36—Natco
The company has opened a new facility as a step in its plan to become the leader in mold powder technology.

SHEET STEEL

P.38—Inland Steel
The Midwest steelmaker is joining forces with Nippon Steel to build a continuous cold processing system.

STEEL BY GEORGE

P.40—Restructuring
By joining forces, steel companies are able to modernize without creating surplus capacity.

MATERIALS REPORT

P.45—Steel Summary
Steel producers are revising their market estimates for 1987 upward.

DEPARTMENTS

P.4—Editorial Staff
P.4—Letters
P.41—Product Review
P.44—Free Literature
P.46—P&P Data
P.47—Ferrous Scrap
P.48—Ad Index
P.48—Business Staff
P.49—Reader Service Card

NEXT ISSUE:

Continuous Strip Casting

Iron Age Metals Producer (UPS 269-780) is published monthly by Fairchild Publications, 7 East 12th St., New York, N.Y. 10003. Fairchild Publications is a division of Capital Cities Media, Inc., New York, N.Y. Second Class Postage Paid at New York, N.Y. and additional mailing offices. Iron Age Metals Producer is sent on a controlled free basis to qualified managers in the primary metals industry. All others: $30 one year (U.S.), $56 one year (Canada/Foreign). Single copies, $3.00. Send address changes to Iron Age Metals Producer, P.O. Box 3026, Wheaton, IL, 60189.

DEFENSE ORDERS LAUNCH A NEW OFFENSIVE

Defense orders continue to set the pace for the nation durable goods manufacturers.

In March, according to the U.S. Commerce Department, orders for durable goods rose $3.8 billion, or 3.7 pct, to $105.8 billion. That total was the largest figure for one month since the record $106 billion in orders last December.

Much of the gain can be attributed to new orders for defense capital goods. Commerce officials noted that military orders were up 39 pct to $9.7 billion, while orders for nondefense capital goods rose 1.7 pct to $27.3 billion in March.

Excluding the defense outlays, overall durable goods orders were up 1.2 pct for the month, they said.

Within the major industry categories, transportation equipment posted the largest month-to-month gain. Here again, Commerce officials reported, much of the impetus was the increase in military spending for aircraft and parts and for shipbuilding.

Primary metals orders rose $500 million, or 5.9 pct, during the month to $8.7 billion. Orders for nonelectrical machinery posted a $300 million rise to $17.1 billion in March, while orders for electrical machinery fell $800 million, or 4.6 pct, to $16.3 billion. Much of the loss in that category was due to a decline in orders for communication equipment, Commerce officials said.

In addition, they reported that shipments of durable goods increased 1.2 pct to $104.9 billion in March. Meanwhile, factory inventories of durable goods slipped 0.4 pct to $207.8 billion. All industry segments registered declines except motor vehicles and parts, the department noted. That category posted a 1.6 pct rise in inventories in March.

Billions of Dollars, Seasonally adjusted Monthly Total, unless otherwise noted Source: U.S. Dept of Commerce		Latest Month or Qtr.	Previous Month or Qtr.	Same Period Year Ago
CAPITAL EXPENDITURES (Annual Rates)				
U.S. Industry, Total	2nd Q*	$393.4	$386.8	$375.9
Manufacturing, Total	2nd Q*	145.2	141.2	141.7
Manufacturing, Durable Goods	2nd Q*	72.4	67.9	68.3
Mining Industry	2nd Q*	10.6	10.4	11.2
KEY INDICATORS, Durable Goods Manufacturing				
New Orders	March	105.8	101.9	100.9
Shipments	March	104.9	103.6	97.7
Inventories	March	207.8	208.6	212.7
Unfilled Orders	March	358.2	357.3	369.1
NEW ORDERS, METALWORKING				
Capital Goods Producers, Nondefense Industries	March	27.3	26.9	26.6
Capital Goods Producers Defense Industries	March	9.7	7.0	12.2
Primary Metals, Total	March	8.7	8.2	8.3
Steel (SIC 331)	March	3.7	3.4	3.7
Iron & Steel Castings (SIC 332)	March	7.2	7.6	8.7
Nonferrous Metals	March	4.3	4.1	3.8
Nonelectrical Mach.-Equip. Industries, Total	March	17.1	16.8	16.1
Engines & Turbines	March	1.5	1.1	1.2
Construction, Mining & Mat. Hdlg. Equip	March	2.2	2.1	2.1
Metalworking Machinery	March	0.8	0.7	0.7
Machine Tools, Total ($Mill.)**	March	165.2	152.9	214.6
Machine Tools, Metalcutting**	March	124.5	103.7	159.9
Machine Tools, Metalforming**	March	40.7	49.2	54.7
Electrical Mach. & Equip. Industries, Total	March	16.3	17.1	16.9
Elec. Transmission & Ind. Equip.	March	2.2	2.3	2.1
Household Appliances	March	1.6	1.6	1.3
Communication Equipment	March	4.2	4.9	6.0
Transportation Equipment,Total	March	30.3	27.3	29.3
Motor Vehicles & Parts (Shipments)	March	17.5	18.2	15.1
Aircraft, Missiles & Parts	March	9.9	7.8	9.9
Shipbuilding & Military Tanks	March	1.7	0.4	3.2
Fabricated Metal Products, Total	March	11.4	11.2	10.7
Instruments, Total	March	5.2	5.1	4.9

*Est. – Commerce Dept; **Source: NMTB

1ST QUARTER EARNINGS
STEEL GETS A TAX CHECK

Most of the major steel producers posted profits in the first quarter, but that was no great achievement. Much of the money came from a government refund for unused investment credits.

The steel industry didn't turn any corners in the first quarter of 1987.

Most mills showed gains over the first quarter of 1986, but that was no great achievement. All the six largest mills lost money in the 1986 winter quarter.

With steel prices up and with volume better than expected, it might have been thought the industry's cost cutting efforts would finally show some positive results. That didn't happen. Some of the profit margins were impressive until you discovered the companies got a quiet helping hand from the government.

The $62 million profit of Inland Steel Co. came to 7.4 pct of first quarter sales. Armco earned $52 million or 7.2 pct of sales. For Inland, $50 million of the profit came from a refund for unused investment credits. Armco got nearly $42 million from the same source.

The unique Federal handout, which has received amazingly little attention, was a one-time sop to an industry that will be hurt directly and indirectly by the repeal of the investment tax credit.

USX Corp. reported a loss of $97 million for the first quarter. This was rated a good showing considering the fact that there was no steel production in January and only limited shipments after that.

"We expect steel to have a modest operating income in the second quarter," said David M. Roderick, chairman of USX. In the first quarter and since then, USX made good on its pledge to re-enter the market in an orderly manner and avoid disruptive pricing. The restraint of USX is credited with giving the industry a shot at profitable pricing.

The full price test will probably come in the summer. "In the last half of 1987," said Mr. Roderick, "we expect to achieve our pre-strike market share...." Hopefully, the market spurt now underway will continue in the third quarter, and demand will be strong enough to support proposed price increases along with an expansion of the USX share of the business.

Bethlehem Steel Corp. reported a profit of $25.6 million for the first quarter. With the investment credit refund providing over $32 million, the reported profit was disappointing to analysts. Bethlehem's steel segment had an operating profit of $49 million. That compared with an operating loss of $36 million in the first quarter of 1986.

During the quarter, Bethlehem maintained a cash position of more than $460 million. That was up from only $161 million a year ago.

Bethlehem Chairman Walter F. Williams had only gloomy words about the life expectancy of steel. "For the foreseeable future," said Mr. Williams, "we believe the industry will remain mired in a vicious circle of too much steel supply chasing too little demand with high exit costs preventing the needed downsizing." He renewed the industry's pitch for government funding of steel plant closings.

National Steel Corp. reported a loss of $5.6 million in the first quarter. National's showing would have been even worse if the company hadn't received nearly $18 million in investment credit refunds.

National attributed its loss to a blast furnace reline at Granite City and to breakdowns of both hot and cold mills at Great Lakes. Other companies have had production problems. Inland Steel had blast furnace and basic

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STEEL: THE CHECK WAS IN THE MAIL

FIRST QUARTER PROFIT REPORT—1987 (In Millions of Dollars)

	EARNINGS				SALES		
	E/S	1st Q 1987	1st Q 1986	Pct Change	1st Q 1987	1st Q 1986	Pct Change
USX	–	(97.0)	(249.0)	–	$2,790.0	$4,651.0	–40.0
LTV	6.8	129.6	(109.1)	–	1,910.0	1,800.0	+6.1
BETHLEHEM	2.3	26.6	(91.8)	–	1,130.7	1,168.6	–3.2
INLAND	7.4	62.5	(22.0)	–	842.6	754.1	+12.0
ARMCO	7.2	52.5	(62.9)	–	727.8	681.4	+6.8
NATIONAL	–	(5.6)	(39.4)	–	537.4	472.5	+14.0
TOTAL	2.1	(167.6)	(574.2)	–	7,938.5	9,527.6	–17.0
CYCLOPS	1.9	7.3	6.1	+20.0	378.3	337.5	+12.0
WEIRTON	8.1	27.9	8.9	+234.0	346.2	287.0	+21.0
NUCOR	5.8	10.8	12.0	–10.0	186.8	189.0	–1.1
CARPENTER	–	(0.8)	4.1	–	125.4	141.7	–12.0
LUKENS	2.6	2.9	0.5	+532.0	110.6	92.9	+19.0
FLORIDA	4.2	3.7	1.4	+163.0	88.6	71.8	+23.0
QUANEX	–	(1.6)	(5.1)	–	76.5	82.1	–6.8
ACME	4.0	2.9	2.8	+5.4	74.4	60.3	+23.0
LACLEDE	1.5	0.9	0.3	+262.0	64.8	57.8	+12.0
BIRMINGHAM	4.0	2.4	2.0	+21.0	59.1	39.6	+49.0
CF&I	–	(5.0)	(2.4)	–	55.4	50.9	+9.0
EASTMET	–	(1.0)	(1.7)	–	26.8	38.2	–30.0

oxygen outages. The production snags help explain why steel supply has remained tight and steel prices have stayed firm.

LTV Corp. reported an operating income of $101 million for its steel business. That was up from a loss of $60 million in the first quarter of 1986. Reflecting its bankrupt state, LTV's interest charges fell from $76 million in the first quarter of 1986 to $4.7 million in the 1987 quarter.

Weirton Steel Corp. continued as the most profitable of the large mills in the first quarter. Weirton's profit of nearly $28 million came to more than 8 pct of sales. There was no mention of any investment credit refund in the company's statement.

"The upswing in volume combined with firmer selling products largely accounted for the rebound in earnings," said Robert L. Loughhead, chairman of Weirton. Mr. Loughhead reported good orders through the first half.

Like many steel executives, he was bearish about the second half. "Our expectation is that domestic demand will suffer a gradual downward trend over the long term," he said.

Carpenter Technology Corp. had a small loss in the first quarter. Carpenter would have been profitable had it not been for a special charge of $9.4 million for early retirements and for separations. The charge indicated how costly it is to make cutbacks. Only 340 hourly employees were given early retirement at Carpenter.

Lukens, Inc., had a profit of more than $2.9 million in the first quarter. This was of special interest because Lukens makes steel plates and the plate business has been depressed for the last five years.

The Lukens showing could mean heavy construction is finally making an appearance. Unlike most steel companies, Lukens believes there has been a basic market improvement. "We are currently experiencing improved business across a number of our markets," said W. R. Wilson, president of Lukens.

"Because of the weaker dollar, some plate steel customers who also experienced strong import competition are recapturing business that previously would have gone offshore," said Mr. Wilson. "Also, passage of the Surface Transportation Assistance Act should strengthen an already healthy bridge construction market."

Both Florida Steel Corp. and Nucor Corp. continued to make money. Nucor's earnings were down from 1986 but were still more than respectable. Florida, meanwhile, posted $3.7 million in profits during the first quarter of this year compared with $1.4 million during the same period last year.

Acme Steel Co., seems to be faring well as an independent company. Acme had a 4 pct return on sales in the first quarter.

By George J. McManus

MATERIALS PRICES

PRICE & PRODUCTION DATA

(Effective May 4, 1987)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	245	221	196	192
Pittsburgh	192	184	194	244
Youngstown	122	116	116	107
Lake Erie	137	128	121	125
Detroit	155	157	154	127
Chicago	493	479	453	496
Midwest	207	197	194	172
Southern	192	185	170	199
Western	56	54	52	84
U.S. Production	1,799	1,721	1,650	1,746

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.45-86.9***
Mesabi, regular-unscreened	gross-ton 32.53
Mesabi, non-bessemer	gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper Lake ports. ***72.45¢—Cleveland-Cliffs as of 12/30/86. 72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82; Hanna Mining 2/26/82.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective May 4, 1987)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,799	1,721	27,507	30,959
Capability Utilization Rate	83.6	80.0	73.3	71.4

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 1/4/87)	25.236	25.236	25.236	24.607
Pig Iron** (Net ton=2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 73.50	$ 73.17	$ 73.17	$ 71.50
No. 2 bundles	$ 50.83	$ 49.83	$ 49.83	$ 52.17

Scrap Comparison (Gross Ton)				
No. 1 steel, Pittsburgh	$ 79.50	$ 76.50	$ 76.50	$ 70.50
No. 1 steel, Philadelphia	68.50	70.50	70.50	71.50
No. 1 steel, Chicago	72.50	72.50	72.50	72.50
No. 1 bundles, Detroit	78.50	66.50	66.50	57.50
Low Phos., Youngstown	79.50	75.50	75.50	70.50
No. 1 mach'y cast., Pgh	81.50	74.50	74.50	73.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	93.50	93.50	93.50	107.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.

**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.

***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective May 4, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	61.00	61.00	5/1/87
Copper (C)	66.50	67.00	4/27/87
Lead	31.00	28.00	4/27/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	187.00	179.00	5/1/87
Zinc	47.00	44.50	10/6/86

ALUMINUM: Avg. for last week & previous week. COPPER (C)=cathode. LEAD: common grade. MAGNESIUM: 99.8% pig. delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Loredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$152.00
Beryllium 97% powder 200	$196.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz.	$456.75
Indium, per troy oz.	$4.70
Iridium, per troy oz.	$405.00
Magnesium sticks, 10,000 lbs.	$2.12
Mercury, per 76-lb., f.o.b. N.Y.	$285.00-305.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.45
Palladium, per troy oz.	$143.00
Platinum, per troy oz.	$609.00
Rhodium, per troy oz.	$1,245.00
Silver ingots, per troy oz.	$8.08
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red.	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.20-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

April 27—301.00
April 28—301.00
April 29—301.00
April 30—300.00
May 1—301.00

Scrap Prices
Brass Mill Scrap

(Cents per lb.; over 20,000 lbs. add 1¢ per lb.)

	Solids	Turnings
Copper	56½	51½
Yellow brass	50	49
Red brass	51	47
Comm. bronze	52½	47½
Mang. bronze	39½	38½
Free cutting rod ends	49	48

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	56
No. 2 copper wire	47
Light copper	41

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	49
No. 2 copper wire	41
Light copper	34
No. 1 composition	42
No. 1 comp. turnings	42
Hvy. yellow brass solids	30
Hvy. yellow brass turnings	24
Radiators	28

Aluminum

New mixed clips	39 — 40
Old sheet	33 — 34
Old cast	33 — 34
Clean dry borings	34 — 35

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	34 — 35
Mixed L.C. clips	33 — 34
Old sheets and cast	27 — 28
Borings and turnings	23 — 24
Duraluminum clippings	27 — 28

Copper and Brass

No. 1 copper wire	45 — 48
No. 2 copper wire	36 — 37
Light copper	33 — 34
Radiators	23 — 24
No. 1 composition	37 — 38
No. 1 composition turnings	35 — 36
Cocks and faucets	31 — 32
Clean heavy yellow brass	27 — 29
Brass pipe	27 — 28
New soft brass clippings	40 — 41

Lead

Heavy soft lead	10 — 11
Whole batteries	1 — 2
Type metal	19 — 20
Electrotype	13 — 14

Nickel

Nickel solids	110 —120
Nickel rod ends	110 —120
Nickel sheets, clips	110 —120
Nickel turnings	26 — 36

Zinc

New zinc clippings	14 — 15
Old diecast zinc	10 — 11

EFFECTIVE MAY 4, 1987

(Effective May 4, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 79.00 to	$ 80.00
No. 2 hvy. melting	69.00 to	70.00
No. 1 dealer bundles	103.00 to	104.00
No. 1 factory bundles (auto)	107.00 to	108.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	98.00 to	99.00
Machine shop turnings	10.00 to	11.00
Shoveling turnings	46.00 to	47.00
Cast iron borings	43.00 to	44.00
Low phos. punchings plate	108.00 to	109.00
Heavy turnings	69.00 to	70.00
No. 1 RR hvy. melting	90.00 to	91.00
Rails, 2 ft. and under	102.00 to	103.00
Scrap rails, random lgth	86.00 to	87.00
RR specialties	100.00 to	101.00
No. 1 machinery cast	81.00 to	82.00
Cupola cast	71.00 to	72.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	500.00 to	510.00
18-8 turnings	400.00 to	410.00

Chicago

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	68.00 to	69.00
No. 1 dealer bundles	94.00 to	95.00
No. 1 factory bundles (auto)	99.00 to	100.00
No. 2 dealer bundles	60.00 to	61.00
No. 1 busheling	84.00 to	85.00
Shredder scrap	83.00 to	84.00
Machine shop turnings	22.00 to	23.00
Mixed borings and turnings	15.00 to	16.00
Shoveling turnings	25.00 to	26.00
Cast iron borings	40.00 to	41.00
Low phos. forge crop	92.00 to	93.00
Low phos. punchings plate 1/4 in. and heavier	107.00 to	108.00
Low phos. 2 ft. and under	100.00 to	101.00
No. 1 RR hvy. melting	76.00 to	77.00
Scrap rails random lgth	81.00 to	82.00
Reroller rails	101.00 to	102.00
Rails, 2 ft. and under	93.00 to	94.00
RR couplers and knuckles	73.00 to	74.00
RR car axles	106.00 to	107.00
No. 1 machinery cast	93.00 to	94.00
Cupola cast	83.00 to	84.00
Stove plate	96.00 to	97.00
Steel car wheels	93.00 to	94.00
Stainless		
18-8 bundles and solids	470.00 to	480.00
18-8 turnings	350.00 to	360.00
430 bundles and solids	130.00 to	140.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 67.00 to	$ 70.00
No. 2 hvy. melting	59.00 to	62.00
No. 1 dealer bundles	91.00 to	94.00
No. 2 dealer bundles	42.00 to	45.00
No. 1 busheling	83.00 to	86.00
Shredder scrap	84.00 to	87.00
Machine shop turnings	24.00 to	27.00
Mixed borings and turnings	24.00 to	27.00
Shoveling turnings	39.00 to	42.00
Low phos. 5 ft. and under	78.00 to	81.00
Low phos. 2 ft. punchings	96.00 to	99.00
Electric furnace bundles	93.00 to	96.00
RR specialties	80.00 to	83.00
Rails, 2 ft. and under	96.00 to	99.00
Cupola cast	78.00 to	81.00
Heavy breakable cast	52.00 to	55.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 51.00 to	$ 52.00
No. 2 hvy. melting	49.00 to	50.00
No. 1 dealer bundles	78.00 to	79.00
No. 2 bundles	36.00 to	37.00
No. 1 busheling	76.00 to	77.00
Drop forge flashings	45.00 to	46.00
Machine shop turnings	18.00 to	19.00
Mixed borings and turnings	7.00 to	8.00
Shoveling turnings	18.00 to	19.00
Cast iron borings	20.00 to	21.00
Heavy breakable cast	32.00 to	33.00
Mixed cupola cast	47.00 to	48.00
Automobile cast	71.00 to	72.00
Stainless		
18-8 bundles and solids	470.00 to	480.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 63.00 to	$ 64.00
No. 2 hvy. melting	62.00 to	63.00
No. 1 dealer bundles	86.00 to	87.00
No. 2 dealer bundles	36.00 to	37.00
Machine shop turnings	16.00 to	17.00
Shoveling turnings	16.00 to	17.00
Low phos. plate	79.00 to	80.00
Electric furnace bundles	69.00 to	70.00
Galvanized bundles	66.00 to	67.00

Cleveland

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 59.00 to	$ 60.00
No. 2 hvy. melting	56.00 to	57.00
No. 1 dealer bundles	83.00 to	84.00
No. 1 factory bundles	85.00 to	86.00
No. 2 bundles	35.00 to	36.00
No. 1 busheling	77.00 to	78.00
Machine shop turnings	15.00 to	16.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	20.00 to	21.00
Cut structural & plates, 5 ft. and under	70.00 to	71.00
Cut structural & plates, 2 ft. and under	93.00 to	94.00
Low phos. punchings plate	93.00 to	94.00
Foundry steel, 2 ft. & under	57.00 to	58.00
No. 1 RR hvy. melting	65.00 to	66.00
Rails, 2 ft. and under	97.00 to	98.00
Rails, 18 in. and under	99.00 to	100.00
No. 1 machinery cast	84.00 to	85.00
Mixed cast	51.00 to	52.00
Stainless		
18-8 bundles	475.00 to	485.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 56.00 to	$ 57.00
No. 2 hvy. melting	46.00 to	47.00
No. 1 busheling	79.00 to	80.00
No. 1 dealer bundles	80.00 to	81.00
No. 2 bundles	29.00 to	30.00
Machine shop turnings	13.00 to	14.00
Mixed borings and turnings	13.00 to	14.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	27.00 to	28.00
Low phos. plate	79.00 to	80.00
Structural and plate, 2 ft. and under	80.00 to	81.00
Rails, 2 ft. and under	81.00 to	82.00
Scrap rails, random lgth	65.00 to	66.00
No. 1 machinery cast	77.00 to	78.00
No. 1 cupola cast	71.00 to	72.00

St. Louis

No. 1 hvy. melting	$ 69.00 to	$ 70.00
No. 2 hvy. melting	59.00 to	60.00
No. 1 busheling	84.00 to	85.00
No. 1 dealer bundles	88.00 to	89.00
No. 2 bundles	57.00 to	58.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	26.00 to	27.00
No. 1 RR hvy. melting	80.00 to	81.00
Rails, random length	79.00 to	80.00
Rails, 5 ft. and under	89.00 to	90.00
RR specialties	80.00 to	81.00
Cupola cast	66.00 to	67.00
Heavy breakable cast	40.00 to	41.00
Stove plate	87.00 to	88.00
Steel car wheels	87.00 to	88.00
Rerolling rails	102.00 to	103.00
Unstripped motor blocks	60.00 to	61.00

Birmingham

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	67.00 to	68.00
No. 1 dealer bundles	72.00 to	73.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	72.00 to	73.00
Shredder scrap	88.00 to	89.00
Machine shop turnings	28.00 to	29.00
Shoveling turnings	37.00 to	38.00
Cast iron borings	34.00 to	35.00
Electric furnace bundles	68.00 to	69.00
Elec. furnace, 3 ft. & under	74.00 to	75.00
Structural and plate, 2 ft.	91.00 to	92.00
Structural and plate, 4 ft.	86.00 to	87.00
No. 1 RR hvy. melting	86.00 to	87.00
Scrap rails, random lgth	77.00 to	78.00
Rails, 2 ft. and under	94.00 to	95.00
Angles and splice bars	86.00 to	87.00
No. 1 cupola cast	82.00 to	83.00
Unstripped motor blocks	74.00 to	75.00

Cincinnati

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 58.00 to	$ 59.00
No. 2 hvy. melting	52.00 to	53.00
No. 1 dealer bundles	80.00 to	81.00
No. 2 bundles	31.00 to	32.00
Machine shop turnings	12.00 to	13.00
Shoveling turnings	15.00 to	16.00
Cast iron borings	24.00 to	25.00
Low phos. 18 in. and under	84.00 to	85.00
Rails, random length	68.00 to	69.00
Rails, 2 ft. and under	88.00 to	89.00
No. 1 cupola cast	68.00 to	69.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	73.00 to	74.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	31.00 to	32.00
No. 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	395.00 to	415.00
18-8 turnings	310.00 to	330.00
430 prepared solids	100.00 to	110.00
430 solids	85.00 to	95.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 49.00 to	$ 51.00
No. 2 hvy. melting	39.00 to	41.00
No. 1 dealer bundles	58.00 to	60.00
No. 2 bundles	32.00 to	34.00
No. 1 busheling	56.00 to	58.00
Shredder scrap	59.00 to	61.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	72.00 to	77.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 40.00 to	$ 42.00
No. 2 hvy. melting	34.00 to	36.00
No. 1 dealer bundles	31.00 to	33.00
No. 2 dealer bundles	20.00 to	21.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	80.00 to	82.00

Los Angeles

No. 1 hvy. melting	$ 34.00 to	$ 36.00
No. 2 hvy. melting	28.00 to	30.00
No. 1 dealer bundles	26.00 to	28.00
No. 2 dealer bundles	16.00 to	18.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
Elec. furnace, 1 ft. and under (foundry)	67.00 to	69.00
No. 1 cupola cast	72.00 to	74.00

Seattle

No. 1 hvy. melting	$ 60.00 to	$ 62.00
No. 2 hvy. melting	51.00 to	53.00
No. 2 bundles	35.00 to	37.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 76.00
No. 2 hvy. melting, cut 2 ft. and under	66.00
No. 1 dealer bundles	86.00
No. 2 bundles	58.00
Mixed steel scrap	51.00
Bush. new fact. prep'd	86.00
Bush. new fact. unprep'd	69.00
Machine shop turnings	30.00
Short steel turnings	30.00
Mixed borings and turning	19.00
Cast scrap	90.00

Houston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 62.00 to	$ 63.00
No. 2 hvy. melting	52.00 to	53.00
No. 2 bundles	33.00 to	34.00
Machine shop turnings	13.00 to	14.00
Crushed turnings	23.00 to	24.00
Shredder scrap	73.00 to	74.00
Cut structural plate, 2 ft. and under	83.00 to	84.00
Cut structural plate, 5 ft. and under	70.00 to	71.00
Unstripped motor blocks	52.00 to	53.00
Cupola cast	83.00 to	84.00

IRON AGE

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METALS PRODUCER

STEEL'S STORM: HOW MUCH LONGER

What's New in Ladle Refractories

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IRON AGE
METALS PRODUCER

CONTENTS

JULY 1987, Vol. 3, No. 7

Steel marketing: Efforts to get closer to customers are changing the way companies market their products.

Special Feature-P.16

Wider distribution is one way to win customers.

STEEL BY GEORGE

P.4—Can the U.S. get along without imports?

EDITORIAL

P.5—You could do better just flipping a coin.

NEWSWATCH

P.11—Overcapacity
White House officials have no early answer to steel overcapacity and pension problems.

STEEL MARKETING

P.16—New Directions
Some steelmakers are opening processing centers while others are widening their distributor networks.

BUSINESS FORECAST

P.19—Second Half
The outlook for the economy is bright but steel shipments may slow.

REFRACTORIES

P.26—Steel Ladles
Hotter temperatures and longer holding periods in ladles require new materials.

AUTOMOTIVE MATERIALS

P.31—A Battleground
Plastics parts makers that have set up design centers in Detroit are stealing a march on the steel industry.

STEEL INDUSTRY

P.35—Asking for Aid
The steel industry finds itself relying more on the government.

INTEGRATED STEEL

P.41—Stelco
Operations at Stelco are stable now that cutbacks have run their course.

MATERIALS REPORT

P.43—Steel Summary
Plate and structural orders are increasing in a cautious market.

DEPARTMENTS

P.6—Editorial Staff
P.39—Industrial Briefs
P.44—P&P Data
P.45—Ferrous Scrap
P.46—Free Literature
P.47—Clearing House
P.48—Ad Index
P.48—Business Staff
P.49—Reader Service Card

NEXT ISSUE:

Technology Advances in Continuous Strip Casting

Iron Age Metals Producer (UPS 269-780) is published monthly by Fairchild Publications, 7 E. 12th St., New York, N.Y. 10003. Fairchild Publications is a division of Capital Cities Media, Inc., New York, N.Y. Second class postage paid at New York, N.Y., and additional mailing offices. Iron Age Metals Producer is sent on a controlled free basis to qualified managers in the primary metals industry. All others: $30 one year (U.S.), $56 one year (Canada/foreign). Single copies, $3.00. Send address changes to Iron Age Metals Producer, P.O. Box 3026, Wheaton, IL, 60189.

MATERIALS PRICES

PRICE & PRODUCTION DATA

(Effective June 1, 1987)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	240	234	245	173
Pittsburgh	183	183	192	232
Youngstown	113	112	122	103
Lake Erie	134	135	137	115
Detroit	156	161	155	157
Chicago	443	446	493	470
Midwest	193	186	207	166
Southern	185	184	192	201
Western	53	52	56	86
U.S. Production	1,700	1,693	1,799	1,703

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium

Pellets (per iron unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.45-86.9***
Mesabi, regular-unscreened	gross-ton 32.53
Mesabi, non-bessemer	gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper Lake ports. ***72.45¢—Cleveland-Cliffs as of 12/30/86. 72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82. Hanna Mining 2/26/82

STEEL PRODUCTION, COMPOSITE PRICES

(Effective June 1, 1987)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,700	1,693	34,477	37,884
Capability Utilization Rate	79.0	78.7	74.7	71.7

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 1/4/87)	25.236	25.236	25.236	24.850
Pig Iron** (Net ton= 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 77.17	$ 75.83	$ 73.50	$ 70.83
No. 2 bundles	$ 52.17	$ 51.17	$ 50.83	$ 51.50

Scrap Comparison (Gross Ton)

No. 1 steel, Pittsburgh	$ 82.50	$ 79.50	$ 79.50	$ 69.50
No. 1 steel, Philadelphia	71.50	70.50	68.50	71.50
No. 1 steel, Chicago	77.50	77.50	72.50	71.50
No. 1 bundles, Detroit	90.50	78.50	78.50	57.50
Low Phos., Youngstown	87.50	79.50	79.50	68.50
No. 1 mach'y cast., Pgh	81.50	81.50	81.50	73.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	101.50	96.50	93.50	105.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips

**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.

***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago

NONFERROUS PRICES

(Effective June 1, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	63.50	63.00	6/1/87
Copper (C)	70.00	71.00	5/29/87
Lead	37.00	35.00	5/26/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	197.00	193.00	6/1/87
Zinc	45.00	44.50	5/11/87

ALUMINUM: Avg. for last week & previous week. COPPER (C)=cathode. LEAD: common grade. MAGNESIUM: 99.8% pig delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$152.00
Beryllium 97% powder 200	$196.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz.	$451.00
Indium, per troy oz.	$6.50
Iridium, per troy oz.	$406.00
Magnesium sticks, 10,000 lbs.	$2.12
Mercury, per 76-lb., f.o.b. N.Y.	$290.00-310.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.45
Palladium, per troy oz.	$150.00
Platinum, per troy oz.	$617.00
Rhodium, per troy oz.	$1,273.00
Silver ingots, per troy oz.	$7.61
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red.	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.20-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

May 25—299.00
May 26—299.00
May 27—299.00
May 28—302.00
May 29-Holiday

Scrap Prices
Brass Mill Scrap

(Cents per lb.; over 20,000 lbs. add 1¢ per lb.)

	Solids	Turnings
Copper	57	52
Yellow brass	50½	49½
Red brass	51½	47½
Comm. bronze	53	48
Mang. bronze	40	39
Free cutting rod ends	49½	48½

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	56
No. 2 copper wire	47
Light copper	41

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	50
No. 2 copper wire	42
Light copper	35
No. 1 composition	43
No. 1 comp. turnings	43
Hvy. yellow brass solids	31
Hvy. yellow brass turnings	25
Radiators	29

Aluminum

New mixed clips	42	— 43
Old sheet	36	— 37
Old cast	36	— 37
Clean dry borings	37	— 38

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	37	— 38
Mixed L.C. clips	36	— 37
Old sheets and cast	30	— 31
Borings and turnings	25	— 26
Duraluminum clippings	30	— 31

Copper and Brass

No. 1 copper wire	46	— 49
No. 2 copper wire	37	— 38
Light copper	34	— 35
Radiators	24	— 25
No. 1 composition	38	— 39
No. 1 composition turnings	36	— 37
Cocks and faucets	32	— 33
Clean heavy yellow brass	28	— 30
Brass pipe	31	— 33
New soft brass clippings	42	— 43

Lead

Heavy soft lead	13	— 14
Whole batteries	1	— 2
Type metal	22	— 23
Electrotype	15	— 16

Nickel

Nickel solids	122	—132
Nickel rod ends	130	—140
Nickel sheets, clips	130	—140
Nickel turnings	28	— 38

Zinc

New zinc clippings	16	— 17
Old diecast zinc	12	— 13

MATERIALS PRICES

EFFECTIVE JUNE 1, 1987

(Effective June 1, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 82.00 to	$ 83.00
No. 2 hvy. melting	72.00 to	73.00
No. 1 dealer bundles	114.00 to	115.00
No. 1 factory bundles (auto)	118.00 to	119.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	107.00 to	108.00
Machine shop turnings	10.00 to	11.00
Shoveling turnings	46.00 to	47.00
Cast iron borings	43.00 to	44.00
Low phos. punchings plate	119.00 to	120.00
Heavy turnings	72.00 to	73.00
No. 1 RR hvy. melting	92.00 to	93.00
Rails, 2 ft. and under	104.00 to	105.00
Scrap rails, random lgth	88.00 to	89.00
RR specialties	105.00 to	106.00
No. 1 machinery cast	81.00 to	82.00
Cupola cast	71.00 to	72.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	550.00 to	560.00
18-8 turnings	450.00 to	460.00

Chicago

No. 1 hvy. melting	$ 77.00 to	$ 78.00
No. 2 hvy. melting	73.00 to	74.00
No. 1 dealer bundles	105.00 to	106.00
No. 1 factory bundles (auto)	104.00 to	105.00
No. 2 dealer bundles	64.00 to	65.00
No. 1 busheling	94.00 to	95.00
Shredder scrap	87.00 to	88.00
Machine shop turnings	22.00 to	23.00
Mixed borings and turnings	15.00 to	16.00
Shoveling turnings	25.00 to	26.00
Cast iron borings	40.00 to	41.00
Low phos. forge crop	104.00 to	105.00
Low phos. punchings plate 1/4 in. and heavier	119.00 to	120.00
Low phos. 2 ft. and under	114.00 to	115.00
No. 1 RR hvy. melting	94.00 to	95.00
Scrap rails random lgth	84.00 to	85.00
Reroller rails	101.00 to	102.00
Rails, 2 ft. and under	98.00 to	99.00
RR couplers and knuckles	89.00 to	90.00
RR car axles	117.00 to	118.00
No. 1 machinery cast	101.00 to	102.00
Cupola cast	88.00 to	89.00
Stove plate	100.00 to	101.00
Steel car wheels	107.00 to	108.00
Stainless		
18-8 bundles and solids	500.00 to	510.00
18-8 turnings	370.00 to	380.00
430 bundles and solids	140.00 to	150.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 70.00 to	$ 73.00
No. 2 hvy. melting	62.00 to	65.00
No. 1 dealer bundles	92.00 to	95.00
No. 2 dealer bundles	42.00 to	45.00
No. 1 busheling	90.00 to	93.00
Shredder scrap	86.00 to	89.00
Machine shop turnings	24.00 to	27.00
Mixed borings and turnings	24.00 to	27.00
Shoveling turnings	35.00 to	38.00
Low phos. 5 ft. and under	80.00 to	83.00
Low phos. 2 ft. punchings	96.00 to	99.00
Electric furnace bundles	105.00 to	108.00
RR specialties	80.00 to	83.00
Rails, 2 ft. and under	96.00 to	99.00
Cupola cast	78.00 to	81.00
Heavy breakable cast	52.00 to	55.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 53.00 to	$ 54.00
No. 2 hvy. melting	51.00 to	52.00
No. 1 dealer bundles	90.00 to	91.00
No. 2 bundles	38.00 to	39.00
No. 1 busheling	88.00 to	89.00
Drop forge flashings	53.00 to	54.00
Machine shop turnings	21.00 to	22.00
Mixed borings and turnings	7.00 to	8.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	22.00 to	23.00
Heavy breakable cast	33.00 to	34.00
Mixed cupola cast	48.00 to	49.00
Automobile cast	72.00 to	73.00
Stainless		
18-8 bundles and solids	490.00 to	500.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 70.00 to	$ 71.00
No. 2 hvy. melting	67.00 to	68.00
No. 1 dealer bundles	96.00 to	97.00
No. 2 dealer bundles	41.00 to	42.00
Machine shop turnings	18.00 to	19.00
Shoveling turnings	18.00 to	19.00
Low phos. plate	87.00 to	88.00
Electric furnace bundles	76.00 to	77.00
Galvanized bundles	73.00 to	74.00

Cleveland

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 66.00 to	$ 67.00
No. 2 hvy. melting	60.00 to	61.00
No. 1 dealer bundles	93.00 to	94.00
No. 1 factory bundles	99.00 to	100.00
No. 2 bundles	39.00 to	40.00
No. 1 busheling	88.00 to	89.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	22.00 to	23.00
Cut structural & plates, 5 ft. and under	78.00 to	79.00
Cut structural & plates, 2 ft. and under	101.00 to	102.00
Low phos. punchings plate	101.00 to	102.00
Foundry steel, 2 ft. & under	59.00 to	60.00
No. 1 RR hvy. melting	67.00 to	68.00
Rails, 2 ft. and under	99.00 to	100.00
Rails, 18 in. and under	101.00 to	102.00
No. 1 machinery cast	84.00 to	85.00
Mixed cast	51.00 to	52.00
Stainless		
18-8 bundles	495.00 to	505.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 60.00 to	$ 61.00
No. 2 hvy. melting	50.00 to	51.00
No. 1 busheling	85.00 to	86.00
No. 1 dealer bundles	87.00 to	88.00
No. 2 bundles	29.00 to	30.00
Machine shop turnings	13.00 to	14.00
Mixed borings and turnings	13.00 to	14.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	27.00 to	28.00
Low phos. plate	83.00 to	84.00
Structural and plate, 2 ft. and under	84.00 to	85.00
Rails, 2 ft. and under	89.00 to	90.00
Scrap rails, random lgth	67.00 to	68.00
No. 1 machinery cast	77.00 to	78.00
No. 1 cupola cast	71.00 to	72.00

St. Louis

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	62.00 to	63.00
No. 1 busheling	89.00 to	90.00
No. 1 dealer bundles	92.00 to	93.00
No. 2 bundles	60.00 to	61.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	26.00 to	27.00
No. 1 RR hvy. melting	82.00 to	83.00
Rails, random length	82.00 to	83.00
Rails, 5 ft. and under	91.00 to	92.00
RR specialties	83.00 to	84.00
Cupola cast	68.00 to	69.00
Heavy breakable cast	42.00 to	43.00
Stove plate	89.00 to	90.00
Steel car wheels	92.00 to	93.00
Rerolling rails	105.00 to	106.00
Unstripped motor blocks	60.00 to	61.00

Birmingham

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	67.00 to	68.00
No. 1 dealer bundles	72.00 to	73.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	72.00 to	73.00
Shredder scrap	88.00 to	89.00
Machine shop turnings	28.00 to	29.00
Shoveling turnings	37.00 to	38.00
Cast iron borings	34.00 to	35.00
Electric furnace bundles	68.00 to	69.00
Elec. furnace, 3 ft. & under	74.00 to	75.00
Structural and plate, 2 ft.	91.00 to	92.00
Structural and plate, 4 ft.	84.00 to	85.00
No. 1 RR hvy. melting	84.00 to	85.00
Scrap rails, random lgth	77.00 to	78.00
Rails, 2 ft. and under	94.00 to	95.00
Angles and splice bars	86.00 to	87.00
No. 1 cupola cast	82.00 to	83.00
Unstripped motor blocks	74.00 to	75.00

Cincinnati

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 61.00 to	$ 62.00
No. 2 hvy. melting	55.00 to	56.00
No. 1 dealer bundles	88.00 to	89.00
No. 2 bundles	33.00 to	34.00
Machine shop turnings	13.00 to	14.00
Shoveling turnings	16.00 to	17.00
Cast iron borings	25.00 to	26.00
Low phos. 18 in. and under	89.00 to	90.00
Rails, random length	76.00 to	77.00
Rails, 2 ft. and under	96.00 to	97.00
No. 1 cupola cast	70.00 to	71.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	75.00 to	76.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	31.00 to	32.00
No. 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	400.00 to	420.00
18-8 turnings	315.00 to	335.00
430 prepared solids	100.00 to	110.00
430 solids	85.00 to	95.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 49.00 to	$ 51.00
No. 2 hvy. melting	39.00 to	41.00
No. 1 dealer bundles	58.00 to	60.00
No. 2 bundles	32.00 to	34.00
No. 1 busheling	56.00 to	58.00
Shredder scrap	59.00 to	61.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	72.00 to	77.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 40.00 to	$ 42.00
No. 2 hvy. melting	34.00 to	36.00
No. 1 dealer bundles	31.00 to	33.00
No. 2 dealer bundles	20.00 to	21.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	80.00 to	82.00

Los Angeles

No. 1 hvy. melting	$ 34.00 to	$ 36.00
No. 2 hvy. melting	28.00 to	30.00
No. 1 dealer bundles	26.00 to	28.00
No. 2 dealer bundles	16.00 to	18.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
Elec. furnace, 1 ft. and under (foundry)	67.00 to	69.00
No. 1 cupola cast	72.00 to	74.00

Seattle

No. 1 hvy. melting	$ 60.00 to	$ 62.00
No. 2 hvy. melting	51.00 to	53.00
No. 2 bundles	35.00 to	37.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 76.00
No. 2 hvy. melting, cut 2 ft. and under	66.00
No. 1 dealer bundles	86.00
No. 2 bundles	58.00
Mixed steel scrap	51.00
Bush. new fact. prep'd	86.00
Bush. new fact. unprep'd	69.00
Machine shop turnings	30.00
Short steel turnings	30.00
Mixed borings and turning	19.00
Cast scrap	90.00

Houston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 64.00 to	$ 65.00
No. 2 hvy. melting	54.00 to	55.00
No. 2 bundles	34.00 to	35.00
Machine shop turnings	13.00 to	14.00
Crushed turnings	23.00 to	24.00
Shredder scrap	75.00 to	76.00
Cut structural plate, 2 ft. and under	83.00 to	84.00
Cut structural plate, 5 ft. and under	72.00 to	73.00
Unstripped motor blocks	52.00 to	53.00
Cupola cast	86.00 to	87.00

IRON AGE
METALS PRODUCER

AUGUST 1987

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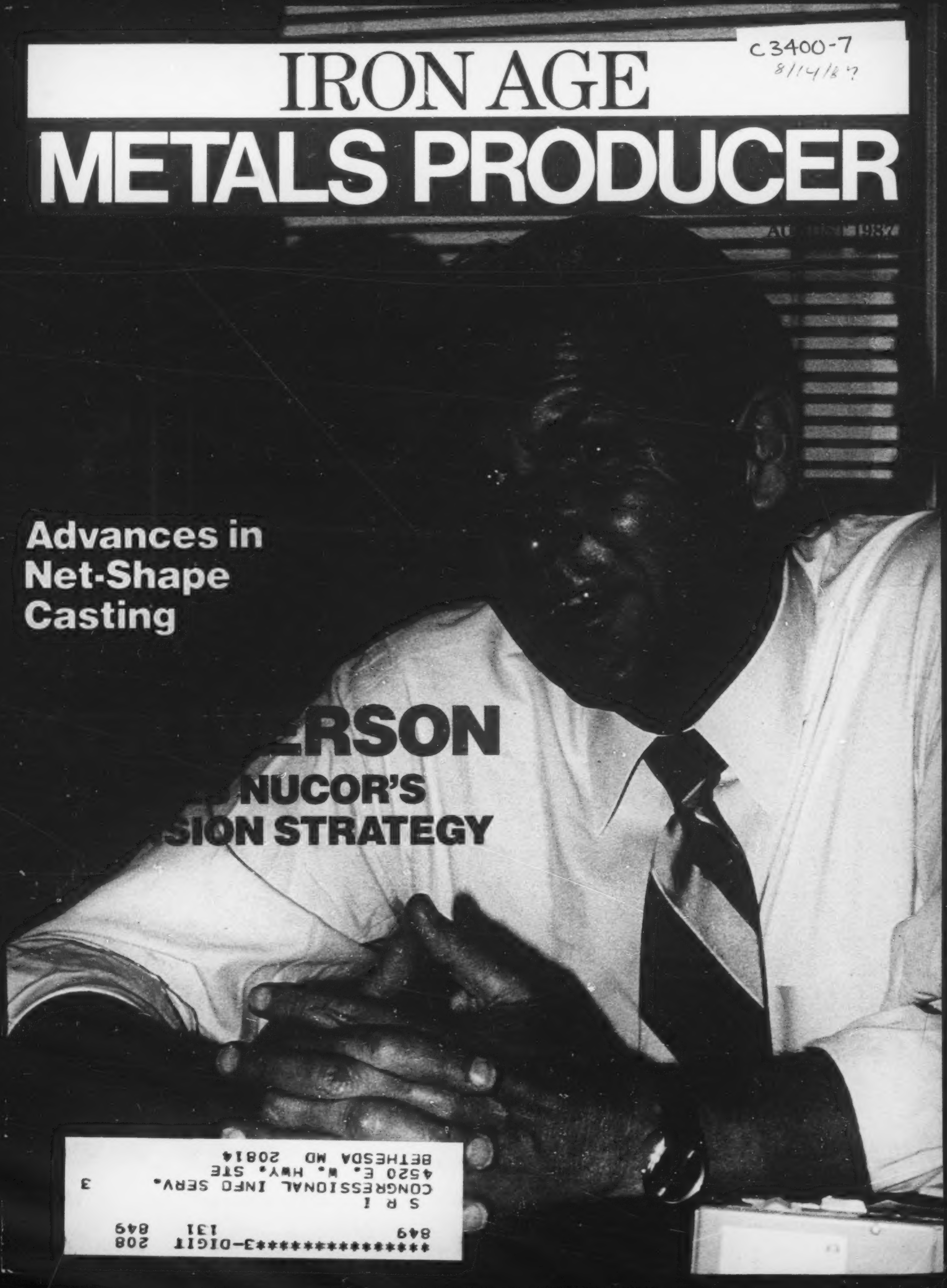

Advances in
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Casting

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IRON AGE
METALS PRODUCER

CONTENTS

AUGUST 1987, Vol. 3, No. 8

Strip Casting: Steelmakers are pursuing several new processes as a means to bring liquid steel to the final product form.

Special Feature-P.14

Nucor's Darlington plant is testing the Hazelett process

STEEL BY GEORGE

P.4—Some economists are not on steel's wavelength.

EDITORIAL

P.5—More fun and games in all the high places.

NEWSWATCH

P.7—Restructuring
Revamping its steel industry could be more painful for the U.S. than it was for the European Economic Community.

STRIP CASTING

P.14—New Processes
The steel industry is looking at everything from casting a two-inch slab to direct casting of thin strip.

MINI-MILLS

P.20—Nucor
Higher profits are enabling the company to plough money into new plants and projects for expanding existing facilities.

SPECIALTY STEEL

P.22—Timken
The Faircrest plant has fulfilled the high expectations Timken had for its new $500 million mill.

McLOUTH STEEL

P.29—McLouth Steel
The troubled steelmaker may have some loyal customers, but debts of more than $100 million are weighing it down.

MATERIALS REPORT

P.35—Steel Summary
Steel producers are pleased but puzzled by the continued strength of demand.

DEPARTMENTS

P.2—Editorial Staff
P.12—Industrial Briefs
P.36—P&P Data
P.37—Ferrous Scrap
P.38—Clearing House
P.40—Ad Index
P.40—Business Staff
P.41—Reader Service Card

NEXT ISSUE:

New Advances in Steel Technology

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MATERIALS PRICES

PRICE & PRODUCTION DATA

(Effective July 6, 1987)

Steel production by districts, thousands of tons (000 omitted)

	Last Week	Two Weeks Ago	Month Ago	Year Ago
Northeast Coast	243	228	223	143
Pittsburgh	153	178	191	169
Youngstown	91	106	107	66
Lake Erie	144	133	130	100
Detroit	153	147	148	125
Chicago	489	472	476	397
Midwest	186	198	189	165
Southern	185	186	185	174
Western	51	52	53	80
U.S. Production	1,695	1,700	1,702	1,419

Source: American Iron & Steel Institute

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium

Pellets (per iron unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.45-86.9***
Mesabi, regular-unscreened	gross-ton 32.53
Mesabi, non-bessemer	gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper Lake ports. ***72.45¢—Cleveland Cliffs as of 12/30/86. 72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82. Hanna Mining 2/26/82

STEEL PRODUCTION, COMPOSITE PRICES

(Effective July 6, 1987)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,695	1,700	42,875	45,603
Capability Utilization Rate	79.2	79.0	75.4	69.5

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 1/4/87)	25.236	25.236	25.236	24.850
Pig Iron** (Net ton= 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 79.50	$ 77.83	$ 77.17	$ 71.50
No. 2 bundles	$ 54.17	$ 52.83	$ 52.83	$ 52.50

Scrap Comparison (Gross Ton)				
No. 1 steel, Pittsburgh	$ 85.50	$ 82.50	$ 82.50	$ 71.50
No. 1 steel, Philadelphia	73.50	73.50	71.50	71.50
No. 1 steel, Chicago	79.50	77.50	77.50	71.50
No. 1 bundles, Detroit	100.50	90.50	90.50	66.50
Low Phos., Youngstown	89.50	87.50	87.50	71.50
No. 1 mach'y cast., Pgh	84.50	81.50	81.50	74.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	103.50	101.50	101.50	105.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.

**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.

***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective July 6, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	66.50	63.50	7/6/87
Copper (C)	80.00	75.50	7/6/87
Lead	42.00	38.00	7/6/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	205.00	205.50	7/6/87
Zinc	48.00	45.00	6/10/87

ALUMINUM: Avg. for last week & previous week. COPPER (C)=cathode. LEAD: common grade. MAGNESIUM: 99.8% pig delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be.	$152.00
Beryllium 97% powder 200	$196.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz.	$446.25
Indium, per troy oz.	$6.60
Iridium, per troy oz.	$385.00
Magnesium sticks, 10,000 lbs.	$2.12
Mercury, per 76-lb., f.o.b. N.Y.	$285.00-305.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.45
Palladium, per troy oz.	$141.00
Platinum, per troy oz.	$553.00
Rhodium, per troy oz.	$1,230.00
Silver ingots, per troy oz.	$7.37
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red.	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.20-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

June 29—291.00
June 30—291.00
July 1—291.00
July 2—292.00
July 3—290.00

Scrap Prices
Brass Mill Scrap

(Cents per lb.; over 20,000 lbs. add 1¢ per lb.)

	Solids	Turnings
Copper	57	52
Yellow brass	50½	49½
Red brass	51½	47½
Comm. bronze	53	48
Mang. bronze	40	39
Free cutting rod ends	49½	48½

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	56
No. 2 copper wire	47
Light copper	41

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	51
No. 2 copper wire	43
Light copper	36
No. 1 composition	44
No. 1 comp. turnings	44
Hvy. yellow brass solids	32
Hvy. yellow brass turnings	26
Radiators	30

Aluminum

New mixed clips	44 — 45
Old sheet	38 — 39
Old cast	38 — 39
Clean dry borings	39 — 40

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	39 — 40
Mixed L.C. clips	38 — 39
Old sheets and cast	32 — 33
Borings and turnings	27 — 28
Duraluminum clippings	32 — 33

Copper and Brass

No. 1 copper wire	47 — 50
No. 2 copper wire	38 — 39
Light copper	35 — 36
Radiators	25 — 26
No. 1 composition	39 — 40
No. 1 composition turnings	37 — 38
Cocks and faucets	33 — 34
Clean heavy yellow brass	29 — 31
Brass pipe	32 — 34
New soft brass clippings	43 — 44

Lead

Heavy soft lead	14 — 15
Whole batteries	1 — 2
Type metal	23 — 24
Electrotype	16 — 17

Nickel

Nickel solids	132 —142
Nickel rod ends	140 —150
Nickel sheets, clips	140 —150
Nickel turnings	28 — 38

Zinc

New zinc clippings	16 — 17
Old diecast zinc	12 — 13

EFFECTIVE JULY 6, 1987

(Effective July 6, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 85.00 to	$ 86.00
No. 2 hvy. melting	75.00 to	76.00
No. 1 dealer bundles	115.00 to	116.00
No. 1 factory bundles (auto)	119.00 to	120.00
No. 2 bundles	50.00 to	51.00
No. 1 busheling	111.00 to	112.00
Machine shop turnings	10.00 to	11.00
Shoveling turnings	46.00 to	47.00
Cast iron borings	43.00 to	44.00
Low phos. punchings plate	114.00 to	115.00
Heavy turnings	75.00 to	76.00
No. 1 RR hvy. melting	98.00 to	99.00
Rails, 2 ft. and under	112.00 to	113.00
Scrap rails, random lgth.	94.00 to	95.00
RR specialties	113.00 to	114.00
No. 1 machinery cast	84.00 to	85.00
Cupola cast	76.00 to	77.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	550.00 to	560.00
18-8 turnings	450.00 to	460.00

Chicago

No. 1 hvy. melting	$ 79.00 to	$ 80.00
No. 2 hvy. melting	75.00 to	76.00
No. 1 dealer bundles	116.00 to	117.00
No. 1 factory bundles (auto)	116.00 to	117.00
No. 2 dealer bundles	68.00 to	69.00
No. 1 busheling	109.00 to	110.00
Shredder scrap	94.00 to	95.00
Machine shop turnings	23.00 to	24.00
Mixed borings and turnings	16.00 to	17.00
Shoveling turnings	26.00 to	27.00
Cast iron borings	41.00 to	42.00
Low phos. forge crop	108.00 to	109.00
Low phos. punchings plate 1/4 in. and heavier	123.00 to	124.00
Low phos. 2 ft. and under	117.00 to	118.00
No. 1 RR hvy. melting	94.00 to	95.00
Scrap rails random lgth	84.00 to	85.00
Reroller rails	101.00 to	102.00
Rails, 2 ft. and under	117.00 to	118.00
RR couplers and knuckles	91.00 to	92.00
RR car axles	122.00 to	123.00
No. 1 machinery cast	103.00 to	104.00
Cupola cast	92.00 to	93.00
Stove plate	102.00 to	103.00
Steel car wheels	109.00 to	110.00
Stainless		
18-8 bundles and solids	510.00 to	520.00
18-8 turnings	380.00 to	390.00
430 bundles and solids	140.00 to	150.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 72.00 to	$ 75.00
No. 2 hvy. melting	64.00 to	67.00
No. 1 dealer bundles	100.00 to	103.00
No. 2 dealer bundles	42.00 to	45.00
No. 1 busheling	95.00 to	98.00
Shredder scrap	87.00 to	90.00
Machine shop turnings	22.00 to	25.00
Mixed borings and turnings	22.00 to	25.00
Shoveling turnings	35.00 to	38.00
Low phos. 5 ft. and under	80.00 to	83.00
Low phos. 2 ft. punchings	97.00 to	100.00
Electric furnace bundles	107.00 to	110.00
RR specialties	78.00 to	81.00
Rails, 2 ft. and under	96.00 to	99.00
Cupola cast	80.00 to	83.00
Heavy breakable cast	52.00 to	55.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 53.00 to	$ 54.00
No. 2 hvy. melting	51.00 to	52.00
No. 1 dealer bundles	100.00 to	101.00
No. 2 bundles	38.00 to	39.00
No. 1 busheling	98.00 to	99.00
Drop forge flashings	58.00 to	59.00
Machine shop turnings	22.00 to	23.00
Mixed borings and turnings	7.00 to	8.00
Shoveling turnings	22.00 to	23.00
Cast iron borings	22.00 to	23.00
Heavy breakable cast	33.00 to	34.00
Mixed cupola cast	48.00 to	49.00
Automobile cast	72.00 to	73.00
Stainless		
18-8 bundles and solids	510.00 to	520.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 74.00 to	$ 75.00
No. 2 hvy. melting	68.00 to	69.00
No. 1 dealer bundles	98.00 to	99.00
No. 2 dealer bundles	41.00 to	42.00
Machine shop turnings	18.00 to	19.00
Shoveling turnings	18.00 to	19.00
Low phos. plate	89.00 to	90.00
Electric furnace bundles	80.00 to	81.00
Galvanized bundles	77.00 to	78.00

Cleveland

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 69.00 to	$ 70.00
No. 2 hvy. melting	63.00 to	64.00
No. 1 dealer bundles	98.00 to	99.00
No. 1 factory bundles	101.00 to	102.00
No. 2 bundles	39.00 to	40.00
No. 1 busheling	92.00 to	93.00
Machine shop turnings	22.00 to	23.00
Shoveling turnings	22.00 to	23.00
Cast iron borings	23.00 to	24.00
Cut structural & plates, 5 ft. and under	82.00 to	83.00
Cut structural & plates, 2 ft. and under	105.00 to	106.00
Low phos. punchings plate	105.00 to	106.00
Foundry steel, 2 ft. & under	62.00 to	63.00
No. 1 RR hvy. melting	71.00 to	72.00
Rails, 2 ft. and under	103.00 to	104.00
Rails, 18 in. and under	105.00 to	106.00
No. 1 machinery cast	84.00 to	85.00
Mixed cast	51.00 to	52.00
Stainless		
18-8 bundles	515.00 to	525.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 60.00 to	$ 61.00
No. 2 hvy. melting	50.00 to	51.00
No. 1 busheling	85.00 to	86.00
No. 1 dealer bundles	87.00 to	88.00
No. 2 bundles	29.00 to	30.00
Machine shop turnings	13.00 to	14.00
Mixed borings and turnings	13.00 to	14.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	27.00 to	28.00
Low phos. plate	83.00 to	84.00
Structural and plate, 2 ft. and under	84.00 to	85.00
Rails, 2 ft. and under	89.00 to	90.00
Scrap rails, random lgth.	67.00 to	68.00
No. 1 machinery cast	77.00 to	78.00
No. 1 cupola cast	71.00 to	72.00

St. Louis

No. 1 hvy. melting	$ 76.00 to	$ 77.00
No. 2 hvy. melting	66.00 to	67.00
No. 1 busheling	93.00 to	94.00
No. 1 dealer bundles	100.00 to	101.00
No. 2 bundles	64.00 to	65.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	26.00 to	27.00
No. 1 RR hvy. melting	88.00 to	89.00
Rails, random length	83.00 to	84.00
Rails, 5 ft. and under	98.00 to	99.00
RR specialties	88.00 to	89.00
Cupola cast	69.00 to	70.00
Heavy breakable cast	43.00 to	44.00
Stove plate	90.00 to	91.00
Steel car wheels	92.00 to	93.00
Rerolling rails	105.00 to	106.00
Unstripped motor blocks	60.00 to	61.00

Birmingham

No. 1 hvy. melting	$ 75.00 to	$ 76.00
No. 2 hvy. melting	68.00 to	70.00
No. 1 dealer bundles	76.00 to	77.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	76.00 to	77.00
Shredder scrap	90.00 to	91.00
Machine shop turnings	28.00 to	29.00
Shoveling turnings	37.00 to	38.00
Cast iron borings	34.00 to	35.00
Electric furnace bundles	70.00 to	71.00
Elec. furnace, 3 ft. & under	76.00 to	77.00
Structural and plate, 2 ft.	96.00 to	97.00
Structural and plate, 4 ft.	86.00 to	87.00
No. 1 RR hvy. melting	86.00 to	87.00
Scrap rails, random lgth.	81.00 to	82.00
Rails, 2 ft. and under	99.00 to	100.00
Angles and splice bars	93.00 to	94.00
No. 1 cupola cast	82.00 to	83.00
Unstripped motor blocks	79.00 to	80.00

Cincinnati

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 66.00 to	$ 67.00
No. 2 hvy. melting	57.00 to	58.00
No. 1 dealer bundles	93.00 to	94.00
No. 2 bundles	35.00 to	36.00
Machine shop turnings	15.00 to	16.00
Shoveling turnings	18.00 to	19.00
Cast iron borings	27.00 to	28.00
Low phos. 18 in. and under	94.00 to	95.00
Rails, random length	81.00 to	82.00
Rails, 2 ft. and under	101.00 to	102.00
No. 1 cupola cast	73.00 to	74.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	78.00 to	79.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	31.00 to	32.00
No. 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	400.00 to	420.00
18-8 turnings	315.00 to	335.00
430 prepared solids	100.00 to	110.00
430 solids	85.00 to	95.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 53.00 to	$ 55.00
No. 2 hvy. melting	43.00 to	45.00
No. 1 dealer bundles	66.00 to	68.00
No. 2 bundles	34.00 to	36.00
No. 1 busheling	65.00 to	67.00
Shredder scrap	64.00 to	66.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	75.00 to	80.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 40.00 to	$ 42.00
No. 2 hvy. melting	34.00 to	36.00
No. 1 dealer bundles	31.00 to	33.00
No. 2 dealer bundles	20.00 to	21.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	80.00 to	82.00

Los Angeles

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	32.00 to	34.00
No. 1 dealer bundles	30.00 to	32.00
No. 2 dealer bundles	16.00 to	18.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
Elec. furnace, 1 ft. and under (foundry)	67.00 to	69.00
No. 1 cupola cast	72.00 to	74.00

Seattle

No. 1 hvy. melting	$ 62.00 to	$ 64.00
No. 2 hvy. melting	53.00 to	55.00
No. 2 bundles	37.00 to	39.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 81.00
No. 2 hvy. melting, cut 2 ft. and under	71.00
No. 1 dealer bundles	96.00
No. 2 bundles	58.00
Mixed steel scrap	56.00
Bush. new fact. prep'd	91.00
Bush. new fact. unprep'd	74.00
Machine shop turnings	30.00
Short steel turnings	32.00
Mixed borings and turning	19.00
Cast scrap	90.00

Houston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 69.00 to	$ 70.00
No. 2 hvy. melting	59.00 to	60.00
No. 2 bundles	37.00 to	38.00
Machine shop turnings	18.00 to	19.00
Crushed turnings	28.00 to	29.00
Shredder scrap	79.00 to	80.00
Cut structural plate, 2 ft. and under	88.00 to	89.00
Cut structural plate, 5 ft. and under	76.00 to	77.00
Unstripped motor blocks	52.00 to	53.00
Cupola cast	86.00 to	87.00

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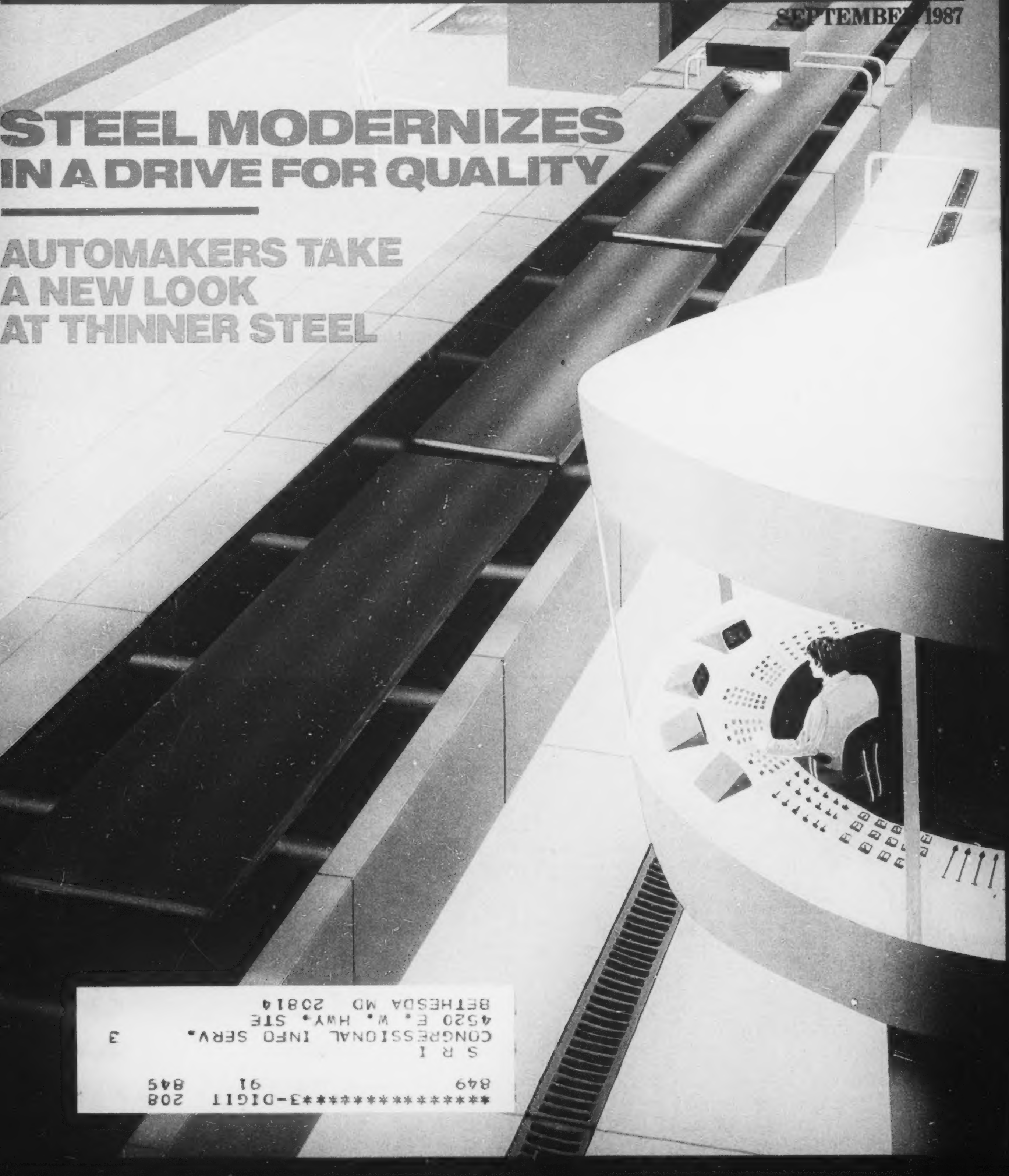
IRON AGE
METALS PRODUCER

SEPTEMBER 1987



STEEL MODERNIZES IN A DRIVE FOR QUALITY

AUTOMAKERS TAKE A NEW LOOK AT THINNER STEEL

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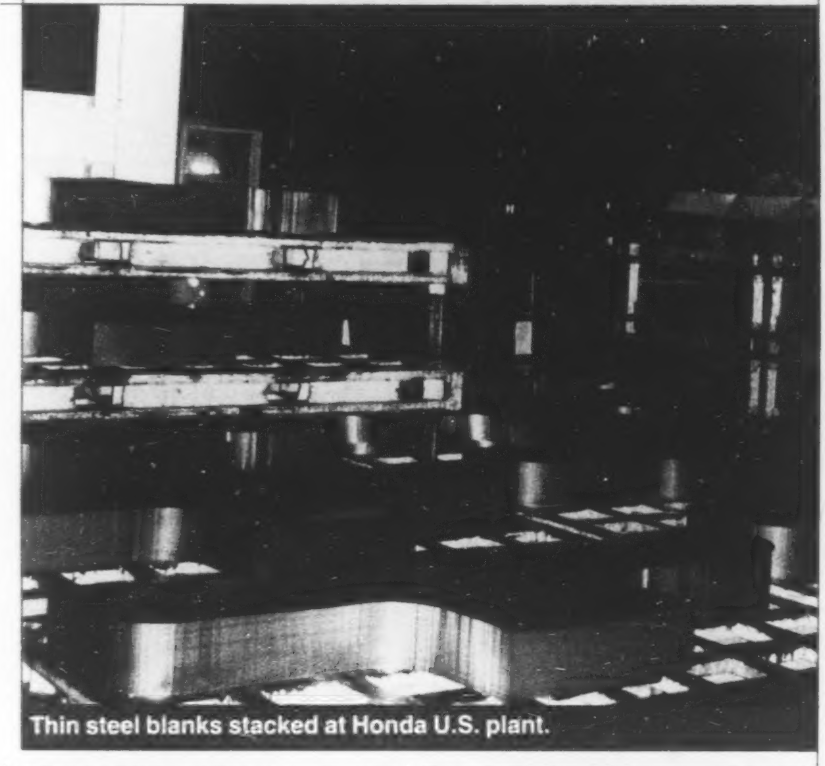
IRON AGE
METALS PRODUCER

CONTENTS

SEPTEMBER 1987, Vol 3, No. 9

Sheet steel: Automakers are taking a fresh look at thinner-gauge steels.

Special Feature-P.32



Thin steel blanks stacked at Honda U.S. plant.

EDITORIAL

P.5—Are you willing to tell everything you know?

STEEL BY GEORGE

P.7—The steel industry's record isn't all that bad.

NEWSWATCH

P.8—Steel Pickup
Steel producers are starting to benefit from the weakening of the dollar.

STEEL

P.18—Steel's Upgrading
Capital spending is still low, but the steelmakers are concentrating on attaining closer tolerances. A large number of upgrading projects are underway or completed.

SHEET STEEL

P.32—Thinner Gauges
U.S. steelmakers are improving their ability to turn out high quality thin steel for the auto industry.

AISE CONVENTION

P.39—Blast Furnaces
Technical reports by steel industry engineers will cover blast furnace innovations and other developments.

ROBERTS INTERVIEW

P.41—Changing Times
The AISE president views the state of the engineering profession in an struggling steel industry.

ALUMINUM

P.44—Mini-Mills
Will mini-mills take hold in the aluminum industry the way they did in steel?

ORDER TRENDS

P.56—Expansion
Orders for capital goods for the defense industry June surged 13 percent.

MATERIALS REPORT

P.67—Steel Summary
Steel producers are boosting their estimates of 1987 shipments.

DEPARTMENTS

P.2—Editorial Staff
P.15—Industrial Briefs
P.60—Product Review
P.64—Free Literature
P.68—P&P Data
P.69—Ferrous Scrap
P.70—Clearing House
P.72—Ad Index
P.72—Business Staff
P.73—Reader Service Card

NEXT ISSUE:

What's New in Sheet Pickling Technology

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NEWSWATCH

75,000-tons-per-month rolling capacity and can produce plate up to 150 in. wide and up to 16 in. thick. A Bethlehem Steel spokesman said because of the wider range of product that the 160-inch mill can produce, Bethlehem decided to operate it rather than the newer 110-inch plate mill when the plate market declined earlier this decade.

LTV completes relining of Indiana Harbor furnace

LTV Steel Co. has completed the relining of the No. 4 blast furnace at its Indiana Harbor Works. The 4,750-tons-per-day furnace was blown in on July 27.

The renovation, which cost $114 million, consisted of replacement of internal refractories, installation of new high-temperature stoves with advanced combustion controls, and a complete rebuilding and modernization of the hot blast system. Also, improvements were made to the stockhouse along with a new charging control system that will increase efficiency of the furnace and insure consistent iron quality.

In addition, a new microprocessor-based distributed control system, interactive graphics consoles and computer interfaces were added to the furnace.

LTV Steel, which has been operating under Chapter 11 of the Federal Bankruptcy Code since July 1986, received permission from the bankruptcy court last September to spend the $114.3 million to reline the No. 4 furnace. LTV Steel attorneys argued at the time that the relining would lift operating profits at the plant by $2.1 million a month to $16 million.

Steel industry has profits in 1st half; sales expanding

The steel industry isn't quite ready to sing "Happy Days..." but the industry is closer to financial happiness than at any time in the past six years.

A combination of improved prices and increased volume has eliminated nearly all the red ink from steel returns. And there is every likelihood things will get better before they get worse.

Continued heavy buying has just about filled the books of flat rolled producers for the rest of the year. The strength of demand made it possible for mills to increase sheet prices $15 a ton July 1 and schedule a $25 increase for early October. There were also price increases for rails and plates.

While rejoicing in these developments, steel executives remained cautious about long-term prospects.

More capacity must be retired to "lock in the turnaround," said David M. Roderick, chairman of USX Corp.

Others agreed there was still too much steel capacity for the amount of steel being consumed in the U.S. Once mill production snarls have been unkinked and inventory buying has eased, said officials, the price discounting will surface again.

Steelmakers' 2nd Qtr. Earnings and Sales

(Quarter ended June 30, in millions of dollars)

	EARNINGS (LOSS)				SALES		
	E/S	2nd Q '87	2nd Q '86	Chg.	2nd Q '87	2nd Q '86	Chg.
USS	3.8%	149.00	14.00	+964%	3,954.00	4,174.00	-5.3%
Bethlehem	4.2%	46.80	(23.80)	—	1,120.00	1,100.00	+2%
Armco	5.0%	36.20	(384.00)	—	719.50	657.70	+9.4%
National	3.0%	18.40	(4.60)	—	615.70	531.00	+16%
Inland	2.1%	17.46	15.74	+11%	845.06	815.83	+3.6%
LTV	6.3%	122.70	(610.40)	—	1,933.90	1,823.10	+6.1%
Total	4.3%	390.58	(993.76)	—	9,188.16	9,010.63	+2%
Weirton	11%	35.75	10.01	+257%	322.00	277.94	+16%
Wheeling Pgh.	15%	39.32	(60.28)	—	258.79	245.34	+5.5%
Allegheny Ludlum	6.5%	14.20	—	—	217.35%	—	—
Nucor	6.6%	13.94	12.47	+12%	209.46	197.09	+6.3%
Lukens	4.8%	6.12	6.81	-10%	127.55	105.93	+20%
Carpenter	1.7%	2.20	4.50	-51%	127.20	136.30	-7%
NS&W*	4.4%	4.96	2.60	+91%	111.88	100.08	+12%
Florida	4.9%	5.11	5.73	-11%	104.27	91.27	+14%
Quanex*	—	(1.31)	(4.96)	—	85.90	87.82	-2.2%
Acme	5.6%	4.74	.95	+399%	85.27	56.82	+50%
Laclede	1.9%	1.25	1.08	+16%	67.25	60.37	+11%
CF&I	—	(1.47)	(4.80)	—	59.85	55.57	+8%
CSC	1.3%	.62	(2.92)	—	47.00	38.18	+23%
New Jersey	14%	4.42	3.38	+31%	31.49	33.07	-4.8%
Eastmet	2.4%	.72	(1.13)	—	30.06	32.58	-8%

*Quarter ended April 30.

ORDER TRENDS

DEFENSE ORDERS FUEL JUNE SURGE

Orders for defense capital goods in June surged 13 percent to $10.6 billion, fueling an increase of new orders in the capital goods industry for the month. The total was substantially above year-ago levels of both defense and nondefense orders.

Nondefense capital goods orders declined to $29.6 billion in June from $30 billion a month earlier. But the nondefense orders were well above the $25.9 billion of June 1986.

New orders for primary metals increased $400 million in the month, with the total reaching $9.9 billion, a 3.9 pct increase. Fabricated metal product orders rose to $11.6 billion in June from $11 billion a month earlier and $10.4 billion a year earlier.

New orders for steel in June rose to $4.5 billion from $4.2 billion in May as the industry continued to feel a rising demand. New orders for steel in June '86 were $8.4 billion.

Nonferrous metals new orders also are on an upward swing, with June's orders of $4.6 billion ahead of May's $4.4 billion and June '86's level of $4.2 billion.

About three-quarters of the increase in orders for manufactured durable goods was accounted for by electrical machinery, which increased $1.3 billion, or 7.3 pct. Most of the electrical machinery rise was in nondefense communication equipment.

Major declines were registered in new orders for transportation equipment and nonelectrical machinery. Transportation equipment orders declined $600 million, or 1.9 pct, and aircraft and parts were down $600 million, or 3.2 pct. Nonelectrical machinery also decreased $600 million, or 3.2 pct.

Shipments of durable goods rose to $104.5 billion in June.

Billions of dollars, seasonally adjusted monthly total, unless otherwise noted. Source: Commerce Department		Latest Month or Qtr.	Prev. Month or Qtr.	Same Period Year Ago
CAPITAL EXPENDITURES Annual Rates)				
U.S. Industry, Total	3rd Q.*	$397.1	$392.0	$374.6
Manufacturing, Total	3rd Q.*	148.5	146.9	139.2
Manufacturing, Durable Goods	3rd Q.*	71.8	73.1	69.3
Mining Industry	3rd Q.*	10.6	10.9	10.2
KEY INDICATORS				
Durable Goods Manufacturing				
New Orders	June	108.7	107.0	97.9
Shipments	June	104.5	102.5	99.6
Inventories	June	208.2	209.1	211.1
Unfilled Orders	June	371.7	367.5	363.0
NEW ORDERS, METALWORKING				
Capital Goods Producers, Nondefense Industries	June	29.6	30.0	25.9
Capital Goods Producers Defense Industries	June	10.6	9.4	8.3
Primary Metals, Total	June	9.9	9.5	8.4
Steel (SIC 331)	June	4.5	4.2	3.6
Iron & Steel Castings (SIC 332)	June	0.7	0.9	0.9
Nonferrous Metals	June	4.6	4.4	4.2
Nonelectrical Mach.-Equip. Industries, Total	June	17.0	17.6	16.5
Engines & Turbines	June	0.8	1.4	1.0
Construction, Mining & Mat. Hdlg. Equip.	June	2.1	2.0	1.9
Metalworking Machinery	June	0.7	0.7	0.6
Machine Tools, Total‡ ($Mill.)	June	205.8	188.1	201.2
Machine Tools, Metal Cutting‡	June	115.3	144.8	156.8
Machine Tools, Metal Forming‡	June	90.5	43.3	44.4
Electrical Mach. & Equip. Industries, Total	June	19.7	18.4	18.1
Elec. Transmission & Ind. Equip.	June	2.3	2.2	2.0
Household Appliances	June	1.6	1.5	1.4
Communication Equipment	June	7.1	5.7	7.0
Transportation Equip. Total	June	29.0	29.6	23.8
Motor Vehicles & Parts (Shipments)	March	17.5	18.2	15.1
Aircraft, Missiles & Parts	June	9.7	10.3	6.3
Shipbuilding & Military Tanks	June	1.9	1.7	0.9
Fabricated Metal Products, Total	June	11.6	11.0	10.4
Instruments, Total	June	3.6	3.4	3.4

*Est.-Commerce Dept.; † Source: National Fluid Power Assn.; ‡ Source: NMTBA

MATERIALS PRICES

Steel composite price to be revised

The Finished Steel Base Price in the composite prices section of the Materials Prices table on this page will be revised over the next three months due to a lack of necessary information. The revision will require a revamping of the basic pricing formula.

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium

Pellets (per [illegible] unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.45-86.9***
Mesabi, regular-unscreened	gross-ton 32.53
Mesabi, non-bessemer	gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85. **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper Lake ports. ***72.45¢—Cleveland-Cliffs as of 12/30/86. 72.5¢—U.S. Steel as of 8/16/85. 86.9¢—Oglebay Norton 3/25/82, Hanna Mining 2/26/82

STEEL PRODUCTION, COMPOSITE PRICES

(Effective August 3, 1987)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,669	1,753	49,720	51,279
Capability Utilization Rate	78.0	81.7	76.0	68.1

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 8/2/87)	24.804	25.236	25.236	24.850
Pig Iron** (Net ton= 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 82.83	$ 79.83	$ 79.50	$ 74.83
No. 2 bundles	$ 53.50	$ 54.17	$ 54.17	$ 53.83
Scrap Comparison (Gross Ton)				
No. 1 steel, Pittsburgh	$ 89.50	$ 85.50	$ 85.50	$ 75.50
No. 1 steel, Philadelphia	74.50	74.50	73.50	73.50
No. 1 steel, Chicago	84.50	79.50	79.50	75.50
No. 1 bundles, Detroit	95.50	100.50	100.50	69.50
Low Phos., Youngstown	92.50	89.50	89.50	74.50
No. 1 mach'y cast., Pgh	87.50	84.50	84.50	74.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	103.50	103.50	103.50	105.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips.
**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.
***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

NONFERROUS PRICES

(Effective August 3, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	73.30	70.60	8/3/87
Copper (C)	85.00	82.00	7/29/87
Lead	42.00	38.00	7/6/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	231.00	222.00	8/3/87
Zinc	48.00	45.00	6/10/87

ALUMINUM: Avg. for last week & previous week. COPPER (C)=cathode. LEAD: common grade. MAGNESIUM: 99.8% pig delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$152.00
Beryllium 97% powder 200	$196.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz	$472.75
Indium, per troy oz	$9.95
Iridium, per troy oz	$360.00
Magnesium sticks, 10,000 lbs	$2.12
Mercury, per 76-lb., f.o.b. N.Y.	$348.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.45
Palladium, per troy oz	$148.00
Platinum, per troy oz	$630.00
Rhodium, per troy oz	$1,305.00
Silver ingots, per troy oz	$8.64
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red.	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.20-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

July 27—286.00
July 28—286.00
July 29—287.00
July 30—289.00
July 31—290.00

Scrap Prices
Brass Mill Scrap

(Cents per lb., over 20,000 lbs. add 1¢ per lb.)

	Solids	**Turnings**
Copper	58	53
Yellow brass	51½	50½
Red brass	52½	48½
Comm. bronze	54	49
Mang. bronze	41	40
Free cutting rod ends	50½	49½

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	58
No. 2 copper wire	49
Light copper	43

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	52
No. 2 copper wire	44
Light copper	37
No. 1 composition	45
No. 1 comp. turnings	45
Hvy. yellow brass solids	33
Hvy. yellow brass turnings	27
Radiators	31

Aluminum

New mixed clips	46 — 47
Old sheet	40 — 41
Old cast	40 — 41
Clean dry borings	41 — 42

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	41 — 42
Mixed L.C. clips	40 — 41
Old sheets and cast	34 — 35
Borings and turnings	29 — 30
Duraluminum clippings	34 — 35

Copper and Brass

No. 1 copper wire	48 — 51
No. 2 copper wire	39 — 40
Light copper	36 — 37
Radiators	26 — 27
No. 1 composition	40 — 41
No. 1 composition turnings	38 — 39
Cocks and faucets	34 — 35
Clean heavy yellow brass	30 — 32
Brass pipe	33 — 35
New soft brass clippings	44 — 45

Lead

Heavy soft lead	16 — 17
Whole batteries	2 — 3
Type metal	25 — 26
Electrotype	18 — 19

Nickel

Nickel solids	135 —145
Nickel rod ends	143 —153
Nickel sheets, clips	143 —153
Nickel turnings	31 — 41

Zinc

New zinc clippings	16 — 17
Old diecast zinc	12 — 13

MATERIALS PRICES

EFFECTIVE AUGUST 3, 1987

(Effective August 3, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No 1 hvy melting	$ 89.00 to	$ 90.00
No 2 hvy melting	79.00 to	80.00
No 1 dealer bundles	119.00 to	120.00
No 1 factory bundles (auto)	121.00 to	122.00
No 2 bundles	50.00 to	51.00
No 1 busheling	114.00 to	115.00
Machine shop turnings	10.00 to	11.00
Shoveling turnings	46.00 to	47.00
Cast iron borings	43.00 to	44.00
Low phos punchings plate	120.00 to	121.00
Heavy turnings	79.00 to	80.00
No 1 RR hvy melting	101.00 to	102.00
Rails, 2 ft and under	117.00 to	118.00
Scrap rails, random lgth	95.00 to	96.00
RR specialties	116.00 to	117.00
No 1 machinery cast	87.00 to	88.00
Cupola cast	79.00 to	80.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	565.00 to	575.00
18-8 turnings	465.00 to	475.00

Chicago

No 1 hvy melting	$ 84.00 to	$ 85.00
No 2 hvy melting	80.00 to	81.00
No 1 dealer bundles	117.00 to	118.00
No 1 factory bundles (auto)	120.00 to	121.00
No 2 dealer bundles	66.00 to	67.00
No 1 busheling	109.00 to	110.00
Shredder scrap	94.00 to	95.00
Machine shop turnings	23.00 to	24.00
Mixed borings and turnings	16.00 to	17.00
Shoveling turnings	26.00 to	27.00
Cast iron borings	41.00 to	42.00
Low phos forge crop	108.00 to	109.00
Low phos punchings plate 1/4 in and heavier	123.00 to	124.00
Low phos 2 ft and under	117.00 to	118.00
No 1 RR hvy melting	94.00 to	95.00
Scrap rails random lgth	91.00 to	92.00
Reroller rails	101.00 to	102.00
Rails, 2 ft and under	117.00 to	118.00
RR couplers and knuckles	91.00 to	92.00
RR car axles	122.00 to	123.00
No 1 machinery cast	103.00 to	104.00
Cupola cast	92.00 to	93.00
Stove plate	102.00 to	103.00
Steel car wheels	118.00 to	119.00
Stainless		
18-8 bundles and solids	525.00 to	535.00
18-8 turnings	390.00 to	400.00
430 bundles and solids	140.00 to	150.00
430 turnings	85.00 to	95.00

Philadelphia

No 1 hvy melting	$ 73.00 to	$ 76.00
No 2 hvy melting	65.00 to	68.00
No 1 dealer bundles	103.00 to	106.00
No 2 dealer bundles	42.00 to	45.00
No 1 busheling	98.00 to	101.00
Shredder scrap	90.00 to	93.00
Machine shop turnings	22.00 to	25.00
Mixed borings and turnings	22.00 to	25.00
Shoveling turnings	37.00 to	40.00
Low phos 5 ft and under	80.00 to	83.00
Low phos 2 ft punchings	97.00 to	100.00
Electric furnace bundles	110.00 to	113.00
RR specialties	78.00 to	81.00
Rails, 2 ft and under	96.00 to	99.00
Cupola cast	80.00 to	83.00
Heavy breakable cast	52.00 to	55.00
No 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No 1 hvy melting	$ 53.00 to	$ 54.00
No 2 hvy melting	51.00 to	52.00
No 1 dealer bundles	95.00 to	96.00
No 2 bundles	38.00 to	39.00
No 1 busheling	93.00 to	94.00
Drop forge flashings	53.00 to	54.00
Machine shop turnings	24.00 to	25.00
Mixed borings and turnings	7.00 to	8.00
Shoveling turnings	24.00 to	25.00
Cast iron borings	23.00 to	24.00
Heavy breakable cast	33.00 to	34.00
Mixed cupola cast	48.00 to	49.00
Automobile cast	72.00 to	73.00
Stainless		
18-8 bundles and solids	525.00 to	535.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No 1 hvy melting	$ 76.00 to	$ 77.00
No 2 hvy melting	70.00 to	71.00
No 1 dealer bundles	101.00 to	102.00
No 2 dealer bundles	43.00 to	44.00
Machine shop turnings	19.00 to	20.00
Shoveling turnings	19.00 to	20.00
Low phos plate	92.00 to	93.00
Electric furnace bundles	83.00 to	84.00
Galvanized bundles	80.00 to	81.00

Cleveland

Brokers buying prices per gross ton on cars

No 1 hvy melting	$ 71.00 to	$ 72.00
No 2 hvy melting	63.00 to	64.00
No 1 dealer bundles	101.00 to	102.00
No 1 factory bundles	105.00 to	106.00
No 2 bundles	39.00 to	40.00
No 1 busheling	95.00 to	96.00
Machine shop turnings	24.00 to	25.00
Shoveling turnings	25.00 to	26.00
Cast iron borings	25.00 to	26.00
Cut structural & plates, 5 ft and under	82.00 to	83.00
Cut structural & plates, 2 ft and under	105.00 to	106.00
Low phos punchings plate	108.00 to	109.00
Foundry steel, 2 ft & under	62.00 to	63.00
No 1 RR hvy melting	71.00 to	72.00
Rails, 2 ft and under	103.00 to	104.00
Rails, 18 in and under	105.00 to	106.00
No 1 machinery cast	84.00 to	85.00
Mixed cast	51.00 to	52.00
Stainless		
18-8 bundles	530.00 to	540.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars

No 1 hvy melting	$ 65.00 to	$ 66.00
No 2 hvy melting	55.00 to	56.00
No 1 busheling	93.00 to	94.00
No 1 dealer bundles	94.00 to	95.00
No 2 bundles	31.00 to	32.00
Machine shop turnings	13.00 to	14.00
Mixed borings and turnings	13.00 to	14.00
Shoveling turnings	19.00 to	20.00
Cast iron borings	27.00 to	28.00
Low phos plate	85.00 to	86.00
Structural and plate, 2 ft and under	90.00 to	91.00
Rails, 2 ft and under	93.00 to	94.00
Scrap rails, random lgth	69.00 to	70.00
No 1 machinery cast	78.00 to	79.00
No 1 cupola cast	71.00 to	72.00

St. Louis

No 1 hvy melting	$ 79.00 to	$ 80.00
No 2 hvy melting	69.00 to	70.00
No 1 busheling	96.00 to	97.00
No 1 dealer bundles	100.00 to	101.00
No 2 bundles	67.00 to	68.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	26.00 to	27.00
No 1 RR hvy melting	88.00 to	89.00
Rails, random length	83.00 to	84.00
Rails, 5 ft and under	98.00 to	99.00
RR specialties	88.00 to	89.00
Cupola cast	69.00 to	70.00
Heavy breakable cast	43.00 to	44.00
Stove plate	90.00 to	91.00
Steel car wheels	92.00 to	93.00
Rerolling rails	105.00 to	106.00
Unstripped motor blocks	60.00 to	61.00

Birmingham

No 1 hvy melting	$ 78.00 to	$ 79.00
No 2 hvy melting	71.00 to	72.00
No 1 dealer bundles	79.00 to	80.00
No 2 bundles	52.00 to	53.00
No 1 busheling	79.00 to	80.00
Shredder scrap	100.00 to	101.00
Machine shop turnings	31.00 to	32.00
Shoveling turnings	40.00 to	41.00
Cast iron borings	37.00 to	38.00
Electric furnace bundles	72.00 to	73.00
Elec furnace, 3 ft & under	79.00 to	80.00
Structural and plate, 2 ft	96.00 to	97.00
Structural and plate, 4 ft	88.00 to	89.00
No 1 RR hvy melting	88.00 to	89.00
Scrap rails, random lgth	88.00 to	89.00
Rails, 2 ft and under	104.00 to	105.00
Angles and spice bars	93.00 to	94.00
No 1 cupola cast	85.00 to	86.00
Unstripped motor blocks	82.00 to	83.00

Cincinnati

Brokers buying prices per gross ton on cars

No 1 hvy melting	$ 69.00 to	$ 70.00
No 2 hvy melting	59.00 to	60.00
No 1 dealer bundles	96.00 to	97.00
No 2 bundles	37.00 to	38.00
Machine shop turnings	15.00 to	16.00
Shoveling turnings	18.00 to	19.00
Cast iron borings	27.00 to	28.00
Low phos 18 in and under	97.00 to	98.00
Rails, random length	84.00 to	85.00
Rails, 2 ft and under	104.00 to	105.00
No 1 cupola cast	75.00 to	76.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	78.00 to	79.00

New York

Brokers buying prices per gross ton on cars

No 1 hvy melting	$ 38.00 to	$ 40.00
No 2 hvy melting	31.00 to	32.00
No 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem borings	35.00 to	36.00
No 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	400.00 to	420.00
18-8 turnings	315.00 to	335.00
430 prepared solids	100.00 to	110.00
430 solids	85.00 to	95.00

Boston

Brokers buying prices per gross ton on cars

No 1 hvy melting	$ 53.00 to	$ 55.00
No 2 hvy melting	43.00 to	45.00
No 1 dealer bundles	66.00 to	68.00
No 2 bundles	34.00 to	36.00
No 1 busheling	65.00 to	67.00
Shredder scrap	64.00 to	66.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No 1 machinery cast	75.00 to	80.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No 1 hvy melting	$ 44.00 to	$ 46.00
No 2 hvy melting	38.00 to	40.00
No 1 dealer bundles	35.00 to	37.00
No 2 dealer bundles	24.00 to	25.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No 1 cupola cast	82.00 to	84.00

Los Angeles

No 1 hvy melting	$ 42.00 to	$ 44.00
No 2 hvy melting	36.00 to	38.00
No 1 dealer bundles	34.00 to	36.00
No 2 dealer bundles	20.00 to	22.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
Elec furnace 1 ft and under (foundry)	70.00 to	72.00
No 1 cupola cast	74.00 to	76.00

Seattle

No 1 hvy melting	$ 62.00 to	$ 64.00
No 2 hvy melting	53.00 to	55.00
No 2 bundles	37.00 to	39.00
No 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars

No 1 hvy melting	$ 81.00
No 2 hvy melting, cut 2 ft and under	71.00
No 1 dealer bundles	96.00
No 2 bundles	58.00
Mixed steel scrap	56.00
Bush new fact prep'd	91.00
Bush new fact unprep'd	74.00
Machine shop turnings	30.00
Short steel turnings	32.00
Mixed borings and turning	19.00
Cast scrap	90.00

Houston

Brokers buying prices per gross ton on cars

No 1 hvy melting	$ 80.00 to	$ 81.00
No 2 hvy melting	70.00 to	71.00
No 2 bundles	43.00 to	44.00
Machine shop turnings	28.00 to	29.00
Crushed turnings	38.00 to	39.00
Shredder scrap	85.00 to	86.00
Cut structural plate, 2 ft and under	95.00 to	96.00
Cut structural plate, 5 ft and under	85.00 to	86.00
Unstripped motor blocks	57.00 to	58.00
Cupola cast	90.00 to	91.00

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METALS PRODUCER

OCTOBER 1987

JOHN McCONNELL
A NEW STEEL MILL FOR WORTHINGTON?

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HIGHER PRODUCTIVITY ON THE PICKLING LINE

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CONTENTS

OCTOBER 1987, Vol. 3, No. 10

Worthington Industries is considering building a new type of steel sheet mill.

Special Feature-P.16

John McConnell: A go-ahead decision depends on technology gains.

EDITORIAL

P.5—1995: Match your wits with those at the top.

STEEL BY GEORGE

P.7—The steel industry can leapfrog the world.

NEWSWATCH

P.9—Steel Shipments
Steel shipments may reach 72 million tons this year, up from previous estimates.

WORTHINGTON

P.16—New Steel Plant?
The quality of the finished product is the guiding influence on Worthington Industries as it considers entering steelmaking. The mill would be of moderate size—at about 1 million tons a year.

PICKLING

P.22—Fresh Efforts
Sheet steel mills are paying more attention to their pickling lines in their efforts to improve production efficiency.

MAGNESIUM

P.28—Higher Output
Dow Chemical has been spending $10 to $15 million a year on production improvements to keep its lead in magnesium sales.

PLASTICS

P.30—Materials Design
New design configurations provide crashworthiness to auto components made of plastic or lightweight metals.

FERROUS SCRAP

P.33—Heat Wave
The warming trend in the ferrous scrap market turned up sharply in September as steelmakers bid prices up.

MATERIALS REPORT

P.35—Capacity
Estimates put the U.S. steel industry's capacity at 112 million tons, down 50 million tons from 10 years ago.

DEPARTMENTS

P.2—Editorial Staff

P.34—Industrial Briefs

P.36—P&P Data

P.37—Ferrous Scrap

P.38—Clearing House

P.40—Ad Index

P.40—Business Staff

P.41—Reader Service Card

NEXT ISSUE:

Electric Furnaces: The Verdict on Direct Current

Iron Age Metals Producer (UPS 269-780) is published monthly by Fairchild Publications, 7 E. 12th St., New York, N.Y. 10003. Fairchild Publications is a division of Capital Cities Media Inc., New York, N.Y. Second-class postage paid at New York, N.Y., and additional mailing offices. Iron Age Metals Producer is sent on a controlled free basis to qualified managers in the primary metals industry. All others: $30 one year (U.S.), $56 one year (Canada/foreign). Single copies, $3.00. Send address changes to Iron Age Metals Producer, P.O. Box 3028, Wheaton, Ill. 60189.

LETTERS

Electroslag Remelt

With reference to your article on electroslag casting (May issue), I would add to your historical statements that ESR (electroslag remelting), as we know it today in the Western World, was pioneered in the '60s largely by the ESRT team at the British Iron and Steel Research Assn. in Sheffield and also by Dr. Alex Mitchell at the University of Sheffield. He moved subsequently to U.B.C. and headed what is now the recognized center of technology for ESR.

The ESRT group, in conjunction with Consarc Corp., brought much of the ESR technology to this country.

P. Dewsnap
236 Springbrook Trail
Sparta, N.J. 07871

MBAs in Charge

Your July editorial may draw a lot of criticism, but thank God someone had the guts to identify one of the many real problems of the basic steel industry.

In 35 years with a major producer I witnessed the takeover dynasties of MBAs. Their lack of knowledge of manufacturing and the technical aspects of steel as an engineering material forced the abandonment of major portions of the market (alloy and stainless) with the concurrent elimination of R&D and technically competent manufacturing and sales support personnel.

Only two major producers mainained the professional staff necessary to maintain a product line other than "plain vanilla," as Bill Roesch aptly put it.

When I heard the MBAs' open proclamation that successful management of a steel company does not require detailed knowledge of the business, I knew the end was in sight.

Elgin Van Meter
Manager, Quality Assurance
Valley City Steel
Valley City, Ohio

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erage 12 heats a day and, for BOP production, to average 26 to 28 heats a day. The BOP vessels are rated at 225 tons.

With that operating rate, Mr. Fravel said, the caster will exceed its design capacity.

Steel not continuously cast at Lorain is made into bottom-poured ingots, he said.

In addition to raising steel temperatures to optimal casting levels, the ladle furnace also has a system for the addition of alloys. It will allow the BOP to be tapped at temperatures 125 degrees lower than at present, a development which should lengthen BOP vessel life, officials said.

Mr. Fravel said the Lorain Works has been operating two blast furnaces since June, a hot-metal production level that had not been projected to be reached this year.

Lorain is producing 48,000 tons of billet monthly for the Fairfield seamless pipe mill, Mr. Fravel said. Also, 30,000 tons of semi-finished steel is consumed by the plant's tubular operations and 45,000 tons a month by the plant's two bar mills.

Ferrous scrap exports are on an upward course

Ferrous scrap exports totaled 5.1 million short tons in the first half, 18.8 percent behind last year's exports. However, a surge in June shipments made it likely that exports in the next six months will match the second half of 1986. Scrap exports set a record in 1986.

Exports in June totaled 1.26 million tons, 97 percent more than the previous month and 40 percent more than June 1986.

Lower freight rates and increased demand by foreign consumers were two major reasons given by scrap traders for the June surge.

The monthly average in the last six months of 1986 was 898,000 tons, an average most traders felt will be equaled or surpassed in the second half of this year. They pointed to continued strong demand from South Korea, Turkey and India and the expectation that shipments to Japan, traditionally the largest consumer of United States scrap, will increase.

US Exports of Ferrous Scrap

(Short tons, reroll excluded)

Country	June '87	May '87	Apr. '87	Year to Date 1987	Year to Date 1986	Pct. Chg.
Canada	27,749	34,763	37,758	173,266	142,288	+21.8
Greece	0	0	0	22,191	121,741	−81.8
India	131,021	60,426	75,658	487,182	680,348	−28.4
Italy	8,612	357	57,656	100,637	163,384	−38.4
Japan	127,311	86,136	33,760	303,634	1,284,163	−76.4
S. Korea	354,687	117,855	118,784	1,237,611	1,627,689	−23.9
Mexico	51,137	30,873	15,429	147,762	247,556	−40.3
Spain	71,871	16,518	37,364	213,014	313,555	−32.1
Taiwan	16,030	45,039	47,241	230,131	281,489	−18.2
Turkey	258,335	101,370	323,877	1,170,704	600,210	+95.0
Venezuela	25,702	32,982	0	150,190	272,014	−44.8
Others	185,700	111,772	151,990	895,962	582,509	+53.8
Totals	**1,258,155**	**638,091**	**899,517**	**5,132,284**	**6,316,946**	**−18.8**

Source: Compiled by American Metal Market from data released by the Commerce Dept.

Steel restructuring costs put at $30B over next 5 years

The United States steel industry is facing restructuring and modernization costs over the next five years of $30 billion to $35 billion, according to a new steel report from Wharton Econometrics, Bala Cynwyd, Pa.

Of these costs, only $10 billion is for plant modernization, with the rest employee related, according to John Jacobson, director of basic industries for Wharton Econometrics.

The other components of the restructuring tab include $4 billion to $5 billion for pension plan restructuring, $11 billion to $15 billion for restructuring health care plans and $3 billion for direct plant closure expenses such as supplemental employee payments, penalty payments to suppliers and asset write-offs, Jacobson said in the report.

The potential expenditure of more than $30 billion, Mr. Jacobson said, "is far more than the U.S. steel industry can afford."

"We believe direct steel plant closure costs will average $75,000 per terminated employee over the next five years," said Christopher Plummer, manager of steel market analysis for Wharton Econometrics.

He identified 14 steel plants in the nation that face the "greatest threat of large-scale restructuring up to and including full-scale closure."

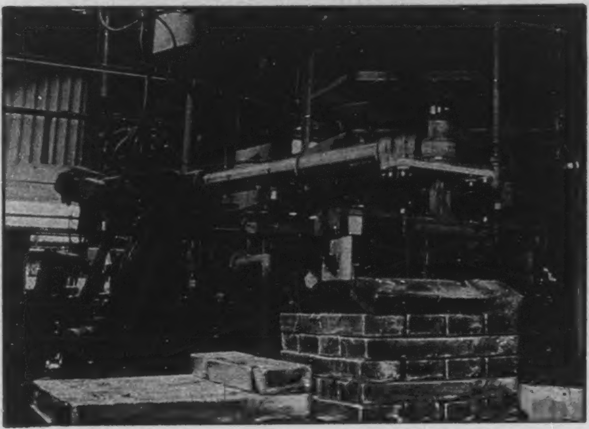
Those plants are Bethlehem Steel Corp.'s Bethlehem, Pa., and Johnstown, Pa., plants; Gulf States Steel Inc.'s Gadsden, Ala., plant; Lone Star Technologies Inc.'s Lone Star, Texas, plant; LTV Steel Co.'s Warren and Canton, Ohio, and South Chicago, Ill., plants; McLouth Steel Products Corp.'s Trenton, Mich., plant; Rouge Steel Co. in Dearborn, Mich.; Sharon Steel Corp. in Farrell, Pa.; and USS's plants in Fairless Hills, Pa., Loraine, Ohio, the Mon Valley Works near Pittsburgh and the South Chicago plant.

DOW POURS IT ON TO KEEP ITS LEAD

Dow Chemical's rivalry with Norsk Hydro in magnesium will heat up when Norsk expands its Quebec operation. Both view the auto business as a juicy potential market.

Production efficiencies are important when you're the world's largest producer of magnesium, but they're even more important when you've got an expanding rival breathing down your neck and a lot of rival materials to contend with.

That's why Dow Chemical Co. has been spending \$10 to \$15 million a year on its magnesium operations in Freeport, Tex., for the past five years and why it plans to continue capital spending at a high level in the years ahead. Norway's Norsk Hydro A/S, Europe's biggest magnesium producer, is readying an ambitious capacity expansion projection in Quebec, right in the backyard of a Detroit that Dow and other magnesium producers have been trying to sell for decades. Aluminum, particularly secondary aluminum, continues to press hard for more automotive business, as do a host of other metals and materials—all of which magnesium has to nudge aside to establish a toe-hold.



Magnesium at Dow Chemical. Cell capacity has been expanded by 25 pct since 1980.

When Dow went to Freeport in the early 1940s to make magnesium for the war effort, there were two strong attractions: cheap energy and an unlimited supply of raw material. Seawater was there for the taking and natural gas was a stepchild of oil production that often was flared off just to get rid of it.

That all changed with the coming of the gas pipe lines (which made natural gas a price-commanding commodity), the post-OPEC oil crises and consequent inflation.

The seawater is still there for the taking but, like its cousins in the aluminum end of the light metals business, Dow still had to get cost-competitive.

Dow Magnesium is the only producer using hydrous magnesium chloride as feed for the electrolytic cells. The magnesium ion is present in seawater at a level of about 1,200 to 1,300 parts per million. Putting it another way, Dow must process about 140 gallons of seawater to make one pound of magnesium.

The magnesium is precipitated as magnesium hydroxide by addition of dolime or caustic in large articulated flocculators, after which it is settled in Dorr thickeners.

The spent overflow enters the plant wastewater stream, where it is neutralized and returned to the ocean, while the thickened underflow is pumped to rotary filters for dewatering, washing and reslurrying with wash water from the magnesium chloride purification step.

Next comes pumping to neutralizers for treatment with hydrochloric acid and enough sulfuric acid to precipitate excess calcium as calcium sulfate. By using the sensible heat of the exhaust gases from the acid furnaces and the heats of reaction of the magnesium hydroxide with the acid stream, 35 percent magnesium chloride brine is produced without auxiliary evaporation.

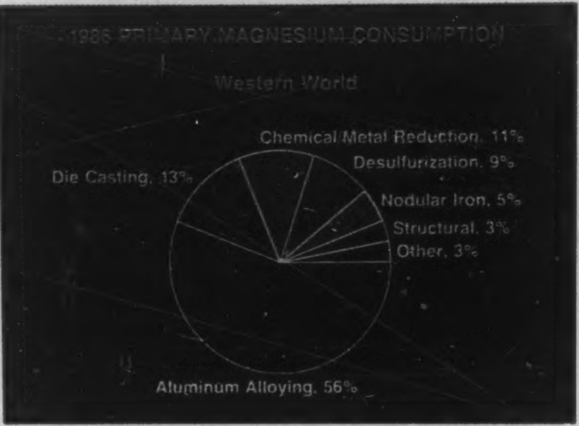
The brine is filtered to remove calcium sulfate and other solids and further purified to reduce sulfate and boron and forwarded to the dryer. The purified brine is dried by direct contact with combustion gases in a fluid bed dryer to produce 8-20 mesh granules of 73 percent $MgCl_2$. Next stop is the electrolytic cells.

The cells are fed semi-continuously and produce both magnesium and chlorine. The dilute, wet chlorine gas is drawn into refractory furnaces and converted into HCl, which is recycled to neutralize magnesium hydroxide. Chloride losses are replaced with chlorine, HCl or magnesium chloride. Dow also has a process patent for liquefying the dilute gaseous chlorine.

Metal is pumped from the cells, which undergo continual improvement and operate at 175,000 amps, by a tractor-mounted pump twice per shift and the cells are sludged daily. The molten magnesium, 99.8 or 99.9 percent pure, is pumped from the cell through a spout in the floor to a crucible below for rail transport to the casting building, which has two 35,000-pound holding furnaces serving four conveyor lines to the casting stations.

Dow Magnesium currently is modernizing the casting operation by adding automatic pouring and skimming, electronic inspection and robotic metal stacking.

According to Frank Leever, unit manager of Magnesium Operations Services at Freeport, magnesium cell capacity has gone up 25 percent since 1980 "and this means less cells required to make the same pounds...and less people." Mr. Leever said cell resistance has been reduced, the anodes per cell have been increased and the overall engineering of the cell itself has been upgraded for more efficiency and longer service life.



One measure of cell performance is called current efficiency. This is the amount of power consumed by the cell compared to the theoretical power. "Our current efficiency has been improving steadily since the 1940s...and has shown a 5 percent improvement since 1980. We see improvements here also in the future, since our plants have shown the capability to run in the high 80 percent range," Mr. Leever said.

According to Clifford B. Wilson, technical manager, magnesium operations, Freeport's ability to handle cell loads over 175,000 amps was achieved with a decrease in kilowatt hours per pound of magnesium.

Mr. Wilson said Dow Magnesium reduced the energy requirement of magnesium produced to 56,000 Btus per pound in 1986 from over 95,000 Btus per pound in 1975. The total energy calculation considers all energy inputs, whether from raw materials such as dolime, acid or graphite, all utility inputs, such as process water or air, and total fuel and electrical power, the latter being determined on the theoretical value of 3,413 Btus per kilowatt hour.

Another reason for honing cost efficiencies at Freeport is the substantial amount of capacity increases in various stages of planning by some of Dow Magnesium's competitors. As Dow sees it, current free world demand for magnesium runs a bit short of capacity in place and anticipated increases in consumption will fall far short of capacity projections based on the expansion projects. This, of course, means stiffer competition.

Dow Magnesium said it sees "continued slow growth (for magnesium) into the 1990s and contended that there already is capacity to spare both in the industry and in the Dow system.

According to C. W. Nelson, commercial manager for Dow's primary magnesium business, magnesium consumption should grow at a rate of less than 1 percent a year "due to near-flat or negative growth in markets such as aluminum alloying, chemical and metal reduction applications." The potential for automotive and steel desulfurization applications is promising, he said, adding that these still have a long way to go to overtake the aluminum alloying market, which last year accounted for 56 percent of western world magnesium consumption.

Dow Magnesium estimates free world magnesium capacity at 237,000 metric tons and consumption this year at 228,000 tons.

On the basis of the company's projection of a 0.7 percent annual growth rate, by 1989, when Norsk Hydro expects to have its 60,000-tons-a-year magnesium smelter at Becancour, Quebec, operating, consumption will be only 3,200 tons higher than the 1987 estimate. Norsk Hydro, meanwhile, backed its decision to go ahead with the Becancour project with a prediction that consumption will grow fast enough "to absorb a considerable amount of output from the Canadian plant."

However, the Norwegian magnesium and aluminum producer also said it intends "to phase in this production gradually, in pace with market development, (and) capacity can easily be increased as the market expands."

Dow Magnesium officials resist speculating on what planned capacity additions will go forward in the years ahead, but when asked recently what capacity changes the company was factoring into its longer-term planning, Mr. Nelson's reply was terse: "an increase of 30,000 tons—net."

With Norsk Hydro apparently determined to go ahead with its 60,000-tons-a-year project, it is quite plain that Dow expects to see some existing capacity come down.

The logical candidate is Amax Inc.'s Rowley smelter on Utah's Great Salt Lake that has had more than its share of troubles over the past few years, including a costly breaching of the dikes surrounding the evaporation ponds in June 1986.

Dow Magnesium has revised its magnesium capacity downward to 86,000 metric tons a year from 118,000 tons previously, but calls it "flexible capacity" because further efficiency improvements will permit incremental increases.

By Bob Regan

MATERIALS PRICES

Steel composite price to be revised

The Finished Steel Base Price in the composite prices section of the Materials Prices table on this page will be revised by Nov. 1 due to a lack of necessary information. The revision will require a revamping of the basic pricing formula.

STEEL PRODUCTION, COMPOSITE PRICES

(Effective September 8, 1987)

U.S. Steel Production	Last Week	Two Weeks Ago	To Date 1986	To Date 1985
Net tons, in thousands	1,736	1,673	58,130	57,577
Capability Utilization Rate	81.2	78.2	76.3	65.8

Composite Prices	This Week	Week Ago	Month Ago	Year Ago
Finished Steel Base* (¢/lb.—eff. 8/2/87)	24.804	24.804	24.804	24.951
Pig Iron** (Net ton= 2000 lbs.)	$213.00	$213.00	$213.00	$213.00
Scrap No. 1 hvy.*** (Gross ton=2240 lbs.)	$ 92.83	$ 88.17	$ 83.50	$ 74.50
No. 2 bundles	$ 58.83	$ 56.17	$ 53.50	$ 52.17
Scrap Comparison (Gross Ton)				
No. 1 steel, Pittsburgh	$ 96.50	$ 95.50	$ 89.50	$ 76.50
No. 1 steel, Philadelphia	84.50	84.50	76.50	73.50
No. 1 steel, Chicago	97.50	84.50	84.50	73.50
No. 1 bundles, Detroit	105.50	105.50	95.50	72.50
Low Phos., Youngstown	100.50	100.50	92.50	74.50
No. 1 mach'y cast., Pgh	92.50	92.50	87.50	74.50
No. 1 mach'y cast., Phila	93.50	93.50	93.50	93.50
No. 1 mach'y cast., Chi	108.50	103.50	103.50	103.50

*Finished Steel Composite: Weighted index of steel bars, shapes, plates, wire, rails, black pipe, hot and cold rolled sheets and strips

**Pig Iron Composite: Based on average prices for basic and foundry pig iron at representative producing points within the U.S.

***Steel Scrap Composite: Average of No. 1 hvy. melting steel scrap and No. 2 bundles delivered to consumers at Pittsburgh, Philadelphia and Chicago.

Lake Superior Ore Prices

51.50% Fe Natural delivered lower Lake ports unless otherwise stated. Rail transportation, handling and unloading may be charged to buyer. Coarse ore 80¢ premium.

Pellets (per iron unit natural)	gross-ton 58.0*
Pellets (per iron unit natural)	gross-ton 59.4**
Pellets (per iron unit natural)	gross-ton 72.45-86.9***
Mesabi, regular-unscreened	gross-ton 32.53
Mesabi, non-bessemer	gross-ton 30.03-31.53

*58.0¢—Mineral Services, Inc. as of 8/13/85 **59.4¢—Inland Steel Mining, 1/1/85 and Pickands Mather, 8/1/85, delivered hold of vessel, upper Lake ports ***72.45¢—Cleveland-Cliffs as of 12/30/86 72.5¢—U.S. Steel as of 8/16/85 86.9¢—Oglebay Norton 3/25/82, Hanna Mining 2/26/82

NONFERROUS PRICES

(Effective September 8, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated.

Primary Metal Prices

(cents per lb.)	current price	last price	date of change
Aluminum (LME)	71.00	71.00	9/8/87
Copper (C)	83.00	81.00	9/8/87
Lead	42.00	38.00	7/6/87
Magnesium Ingot	153.00	148.00	12/9/85
Nickel (LME)	240.00	243.00	9/8/87
Zinc	45.50	48.00	9/4/87

ALUMINUM: Avg. for last week & previous week. COPPER (C)=cathode. LEAD: common grade. MAGNESIUM: 99.8% pig. delivered. NICKEL: Avg. for last week & previous week. ZINC: high grade.

Antimony, American Laredo, Texas	$2.00
Beryllium-aluminum 5% Be, per lb. contained Be	$248.00
Beryllium-copper, per lb. cont. Be	$152.00
Beryllium 97% powder 200	$196.00
Cadmium, ton lots	$1.50
Calcium, ton lots, crown	$3.92
Chromium, 99.5% electro	$4.62
Cobalt, 99%, cathode	$12.50
Gold, per troy oz.	$456.95
Indium, per troy oz.	$9.95
Iridium, per troy oz.	$360.00
Magnesium sticks, 10,000 lbs.	$2.12
Mercury, per 76-lb., f.o.b. N.Y.	$348.00
Molybdenum, lb. tech. moly oxides, 20 lb. MO can	$3.45
Palladium, per troy oz.	$137.00
Platinum, per troy oz.	$594.00
Rhodium, per troy oz.	$1,285.00
Silver ingots, per troy oz.	$7.48
Titanium sponge, melt grade	$3.40-3.55
Tungsten powder, hyd red.	$9.53-9.85
Vanadium	$6.00
Zirconium sponge	$11.20-17.00

(Per lb. unless otherwise noted)

Straits Tin Price

(U.S. cents per lb. EX-SMELTER, based on daily market in Kuala Lumpur in Malaysian dollars per kilo.)

August 31—304.00
Sept. 1—303.00
Sept. 2—304.00
Sept. 3—304.00
Sept. 4—304.00

Scrap Prices
Brass Mill Scrap

(Cents per lb., over 20,000 lbs. add 1¢ per lb.)

	Solids	**Turnings**
Copper	60	55
Yellow brass	53½	52½
Red brass	54½	50½
Comm. bronze	56	51
Mang. bronze	43	42
Free cutting rod ends	52½	51½

Custom Smelters Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	58
No. 2 copper wire	49
Light copper	43

Ingot Makers Scrap

(Cents per lb., carload lots, del. refinery)

No. 1 copper wire	53
No. 2 copper wire	45
Light copper	38
No. 1 composition	46
No. 1 comp. turnings	46
Hvy. yellow brass solids	34
Hvy. yellow brass turnings	28
Radiators	31

Aluminum

New mixed clips	47 — 48
Old sheet	41 — 42
Old cast	41 — 42
Clean dry borings	42 — 43

Dealers' Scrap

(Dealers' buying price f.o.b. New York in cents per pound)

Aluminum

Segregated clippings	42 — 43
Mixed L.C. clips	41 — 42
Old sheets and cast	35 — 36
Borings and turnings	30 — 31
Duraluminum clippings	35 — 36

Copper and Brass

No. 1 copper wire	50 — 53
No. 2 copper wire	41 — 42
Light copper	38 — 39
Radiators	27 — 28
No. 1 composition	42 — 43
No. 1 composition turnings	40 — 41
Cocks and faucets	36 — 37
Clean heavy yellow brass	32 — 34
Brass pipe	35 — 37
New soft brass clippings	46 — 47

Lead

Heavy soft lead	16 — 17
Whole batteries	2 — 3
Type metal	25 — 26
Electrotype	18 — 19

Nickel

Nickel solids	135 —145
Nickel rod ends	143 —153
Nickel sheets, clips	143 —153
Nickel turnings	31 — 41

Zinc

New zinc clippings	16 — 17
Old diecast zinc	12 — 13

MATERIALS PRICES

EFFECTIVE SEPTEMBER 8,1987

(Effective September 8, 1987) Prices obtained in trade based on representative tonnages per gross ton delivered to consumer unless otherwise stated. Prices are the opinions of Iron Age editors and correspondents, based on contacts with dealers, brokers, generators and users in the industry on the effective date listed above.

Ferrous Scrap Prices

Pittsburgh

No. 1 hvy. melting	$ 96.00 to	$ 97.00
No. 2 hvy. melting	86.00 to	87.00
No. 1 dealer bundles	131.00 to	132.00
No. 1 factory bundles (auto)	134.00 to	135.00
No. 2 bundles	57.00 to	58.00
No. 1 busheling	129.00 to	130.00
Machine shop turnings	13.00 to	14.00
Shoveling turnings	48.00 to	49.00
Cast iron borings	45.00 to	46.00
Low phos. punchings plate	135.00 to	136.00
Heavy turnings	86.00 to	87.00
No. 1 RR hvy. melting	104.00 to	105.00
Rails, 2 ft and under	124.00 to	125.00
Scrap rails, random lgth	100.00 to	101.00
RR specialties	124.00 to	125.00
No. 1 machinery cast	92.00 to	93.00
Cupola cast	84.00 to	85.00
Heavy breakable cast	30.00 to	31.00
Stainless		
18-8 bundles and solids	625.00 to	635.00
18-8 turnings	525.00 to	535.00

Chicago

No. 1 hvy. melting	$ 97.00 to	$ 98.00
No. 2 hvy. melting	92.00 to	93.00
No. 1 dealer bundles	133.00 to	134.00
No. 1 factory bundles (auto)	131.00 to	132.00
No. 2 dealer bundles	73.00 to	74.00
No. 1 busheling	124.00 to	125.00
Shredder scrap	112.00 to	113.00
Machine shop turnings	28.00 to	29.00
Mixed borings and turnings	21.00 to	22.00
Shoveling turnings	31.00 to	32.00
Cast iron borings	44.00 to	45.00
Low phos. forge crop	129.00 to	130.00
Low phos. punchings plate 1/4 in. and heavier	150.00 to	151.00
Low phos. 2 ft and under	144.00 to	145.00
No. 1 RR hvy. melting	104.00 to	105.00
Scrap rails random lgth	100.00 to	101.00
Reroller rails	110.00 to	111.00
Rails, 2 ft and under	144.00 to	145.00
RR couplers and knuckles	96.00 to	97.00
RR car axles	131.00 to	132.00
No. 1 machinery cast	108.00 to	109.00
Cupola cast	97.00 to	98.00
Stove plate	107.00 to	108.00
Steel car wheels	124.00 to	125.00
Stainless		
18-8 bundles and solids	565.00 to	575.00
18-8 turnings	410.00 to	420.00
430 bundles and solids	140.00 to	150.00
430 turnings	85.00 to	95.00

Philadelphia

No. 1 hvy. melting	$ 83.00 to	$ 86.00
No. 2 hvy. melting	73.00 to	76.00
No. 1 dealer bundles	117.00 to	120.00
No. 2 dealer bundles	44.00 to	47.00
No. 1 busheling	110.00 to	113.00
Shredder scrap	105.00 to	108.00
Machine shop turnings	24.00 to	27.00
Mixed borings and turnings	24.00 to	27.00
Shoveling turnings	41.00 to	44.00
Low phos. 5 ft and under	100.00 to	103.00
Low phos. 2 ft punchings	116.00 to	119.00
Electric furnace bundles	118.00 to	121.00
RR specialties	91.00 to	94.00
Rails, 2 ft and under	107.00 to	110.00
Cupola cast	82.00 to	85.00
Heavy breakable cast	52.00 to	55.00
No. 1 machinery cast	92.00 to	95.00

Detroit

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 63.00 to	$ 64.00
No. 2 hvy. melting	60.00 to	61.00
No. 1 dealer bundles	105.00 to	106.00
No. 2 bundles	48.00 to	49.00
No. 1 busheling	103.00 to	104.00
Drop forge flashings	59.00 to	60.00
Machine shop turnings	30.00 to	31.00
Mixed borings and turnings	9.00 to	10.00
Shoveling turnings	30.00 to	31.00
Cast iron borings	24.00 to	25.00
Heavy breakable cast	35.00 to	36.00
Mixed cupola cast	52.00 to	53.00
Automobile cast	74.00 to	75.00
Stainless		
18-8 bundles and solids	560.00 to	570.00
18-8 turnings	290.00 to	300.00
430 bundles and solids	115.00 to	125.00

Youngstown

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 83.00 to	$ 84.00
No. 2 hvy. melting	75.00 to	76.00
No. 1 dealer bundles	111.00 to	112.00
No. 2 dealer bundles	53.00 to	54.00
Machine shop turnings	21.00 to	22.00
Shoveling turnings	21.00 to	22.00
Low phos. plate	100.00 to	101.00
Electric furnace bundles	91.00 to	92.00
Galvanized bundles	88.00 to	89.00

Cleveland

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 78.00 to	$ 79.00
No. 2 hvy. melting	68.00 to	69.00
No. 1 dealer bundles	111.00 to	112.00
No. 1 factory bundles	113.00 to	114.00
No. 2 bundles	49.00 to	50.00
No. 1 busheling	103.00 to	104.00
Machine shop turnings	26.00 to	27.00
Shoveling turnings	27.00 to	28.00
Cast iron borings	26.00 to	27.00
Cut structural & plates, 5 ft and under	90.00 to	91.00
Cut structural & plates, 2 ft and under	113.00 to	114.00
Low phos. punchings plate	116.00 to	117.00
Foundry steel, 2 ft & under	69.00 to	70.00
No. 1 RR hvy. melting	78.00 to	79.00
Rails, 2 ft and under	110.00 to	111.00
Rails, 18 in. and under	112.00 to	113.00
No. 1 machinery cast	85.00 to	86.00
Mixed cast	52.00 to	53.00
Stainless		
18-8 bundles	565.00 to	575.00
18-8 turnings	295.00 to	305.00
430 bundles	120.00 to	130.00

Buffalo

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 72.00 to	$ 73.00
No. 2 hvy. melting	62.00 to	63.00
No. 1 busheling	106.00 to	107.00
No. 1 dealer bundles	107.00 to	108.00
No. 2 bundles	35.00 to	36.00
Machine shop turnings	16.00 to	17.00
Mixed borings and turnings	16.00 to	17.00
Shoveling turnings	21.00 to	22.00
Cast iron borings	29.00 to	30.00
Low phos. plate	95.00 to	96.00
Structural and plate, 2 ft and under	100.00 to	101.00
Rails, 2 ft and under	104.00 to	105.00
Scrap rails, random lgth	84.00 to	85.00
No. 1 machinery cast	84.00 to	85.00
No. 1 cupola cast	72.00 to	73.00

St. Louis

No. 1 hvy. melting	$ 94.00 to	$ 95.00
No. 2 hvy. melting	84.00 to	85.00
No. 1 busheling	111.00 to	112.00
No. 1 dealer bundles	116.00 to	117.00
No. 2 bundles	77.00 to	78.00
Machine shop turnings	20.00 to	21.00
Shoveling turnings	24.00 to	25.00
Cast iron borings	29.00 to	30.00
No. 1 RR hvy. melting	104.00 to	105.00
Rails, random length	93.00 to	94.00
Rails, 5 ft and under	110.00 to	111.00
RR specialties	104.00 to	105.00
Cupola cast	73.00 to	74.00
Heavy breakable cast	43.00 to	44.00
Stove plate	100.00 to	101.00
Steel car wheels	109.00 to	110.00
Rerolling rails	115.00 to	116.00
Unstripped motor blocks	60.00 to	61.00

Birmingham

No. 1 hvy. melting	$ 90.00 to	$ 91.00
No. 2 hvy. melting	83.00 to	84.00
No. 1 dealer bundles	89.00 to	90.00
No. 2 bundles	62.00 to	63.00
No. 1 busheling	89.00 to	90.00
Shredder scrap	107.00 to	108.00
Machine shop turnings	36.00 to	37.00
Shoveling turnings	45.00 to	46.00
Cast iron borings	40.00 to	41.00
Electric furnace bundles	82.00 to	83.00
Elec. furnace, 3 ft & under	86.00 to	87.00
Structural and plate, 2 ft	104.00 to	105.00
Structural and plate, 4 ft	102.00 to	103.00
No. 1 RR hvy. melting	102.00 to	103.00
Scrap rails, random lgth	94.00 to	95.00
Rails, 2 ft and under	109.00 to	110.00
Angles and splice bars	98.00 to	99.00
No. 1 cupola cast	85.00 to	86.00
Unstripped motor blocks	82.00 to	83.00

Cincinnati

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 76.00 to	$ 77.00
No. 2 hvy. melting	66.00 to	67.00
No. 1 dealer bundles	103.00 to	104.00
No. 2 bundles	42.00 to	43.00
Machine shop turnings	17.00 to	18.00
Shoveling turnings	20.00 to	21.00
Cast iron borings	29.00 to	30.00
Low phos. 18 in. and under	104.00 to	105.00
Rails, random length	91.00 to	92.00
Rails, 2 ft and under	109.00 to	110.00
No. 1 cupola cast	75.00 to	76.00
Heavy breakable cast	29.00 to	30.00
Drop broken cast	78.00 to	79.00

New York

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 38.00 to	$ 40.00
No. 2 hvy. melting	31.00 to	32.00
No. 2 dealer bundles	20.00 to	22.00
Mixed borings and turnings	10.00 to	11.00
Machine shop turnings	4.00 to	6.00
Shoveling turnings	10.00 to	12.00
Clean cast, chem. borings	35.00 to	36.00
No. 1 machinery cast	79.00 to	80.00
Mixed yard cast	50.00 to	51.00
Heavy breakable cast	10.00 to	12.00
Stainless		
18-8 prepared solids	400.00 to	420.00
18-8 turnings	315.00 to	335.00
430 prepared solids	100.00 to	110.00
430 solids	85.00 to	95.00

Boston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 60.00 to	$ 62.00
No. 2 hvy. melting	50.00 to	52.00
No. 1 dealer bundles	88.00 to	90.00
No. 2 bundles	30.00 to	32.00
No. 1 busheling	86.00 to	88.00
Shredder scrap	78.00 to	80.00
Machine shop turnings	12.00 to	14.00
Shoveling turnings	18.00 to	20.00
No. 1 machinery cast	75.00 to	80.00
Mixed cupola cast	44.00 to	46.00
Heavy breakable cast	8.00 to	10.00

San Francisco

No. 1 hvy. melting	$ 48.00 to	$ 50.00
No. 2 hvy. melting	42.00 to	44.00
No. 1 dealer bundles	39.00 to	41.00
No. 2 dealer bundles	28.00 to	29.00
Machine shop turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
No. 1 cupola cast	79.00 to	81.00

Los Angeles

No. 1 hvy. melting	$ 46.00 to	$ 48.00
No. 2 hvy. melting	40.00 to	42.00
No. 1 dealer bundles	38.00 to	40.00
No. 2 dealer bundles	24.00 to	26.00
Machine shop turnings	7.00 to	8.00
Shoveling turnings	8.00 to	9.00
Cast iron borings	8.00 to	9.00
Elec. furnace 1 ft and under (foundry)	70.00 to	72.00
No. 1 cupola cast	74.00 to	76.00

Seattle

No. 1 hvy. melting	$ 68.00 to	$ 70.00
No. 2 hvy. melting	59.00 to	61.00
No. 2 bundles	41.00 to	42.00
No. 1 cupola cast	89.00 to	90.00
Mixed yard cast	80.00 to	82.00

Hamilton, Ont.

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 81.00
No. 2 hvy. melting, cut 2 ft and under	71.00
No. 1 dealer bundles	96.00
No. 2 bundles	61.00
Mixed steel scrap	56.00
Bush. new fact. prep'd	91.00
Bush. new fact. unprep'd	74.00
Machine shop turnings	30.00
Short steel turnings	32.00
Mixed borings and turning	19.00
Cast scrap	90.00

Houston

Brokers buying prices per gross ton on cars

No. 1 hvy. melting	$ 84.00 to	$ 85.00
No. 2 hvy. melting	74.00 to	75.00
No. 2 bundles	46.00 to	47.00
Machine shop turnings	31.00 to	32.00
Crushed turnings	41.00 to	42.00
Shredder scrap	90.00 to	91.00
Cut structural plate 2 ft and under	99.00 to	100.00
Cut structural plate 5 ft and under	89.00 to	90.00
Unstripped motor blocks	60.00 to	61.00
Cupola cast	94.00 to	95.00